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NATIONAL MUSEUM MELBOURNE

The Journal of the Department of Agriculture of Victoria, Australia.

June, 1922.

PRINCIPAL CONTENTS

A Study of the Wheat Yields in Wimmera and Northern Districts

Report on Annual Egg-Laying Competition

Weeds and Their Eradication

Leongatha Soldiers' Farm Competition

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THE JOURNAL

OF

THE DEPARTMENT OF AGRICULTURE,

VICTORIA, AUSTRALIA.

CONTENTS.—JUNE, 1922.

		PAGE
A Study of the Wheat Yields in the Wimmera and Northern Districts	*H. A. Mullett, B.Ag.Sc.*	321
Report of Eleventh Victorian Egg-Laying Competition	*A. V. D. Rintoul, N.D.D.*	338
Weeds and their Eradication (Stinkwort)—continued from page 294	*H. W. Davey, F.E.S.*	361
Soldier Settlers' Farm Competition, Leongatha	*J. S. McFadzean*	365
Standard Herd Test—Report for Quarter Ended 31st March, 1922		369
Stable and Chaff House (Plans and Specifications)		378
Orchard Notes	*E. E. Pescott, F.L.S.*	383
Reminders for July		384

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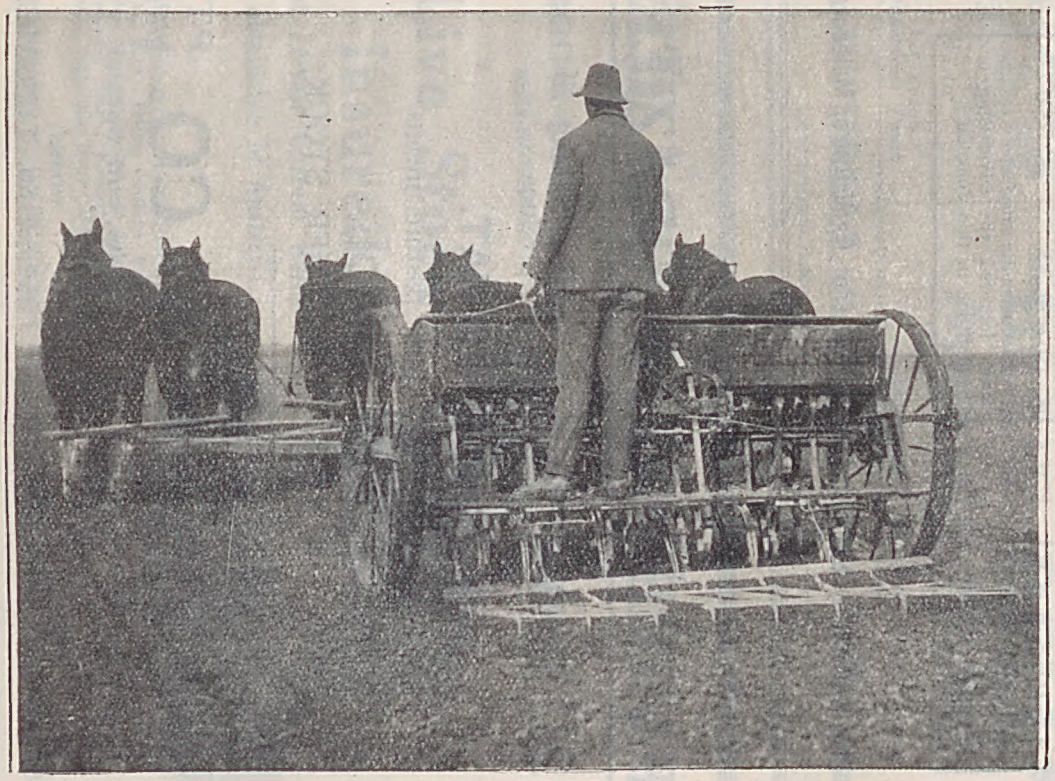

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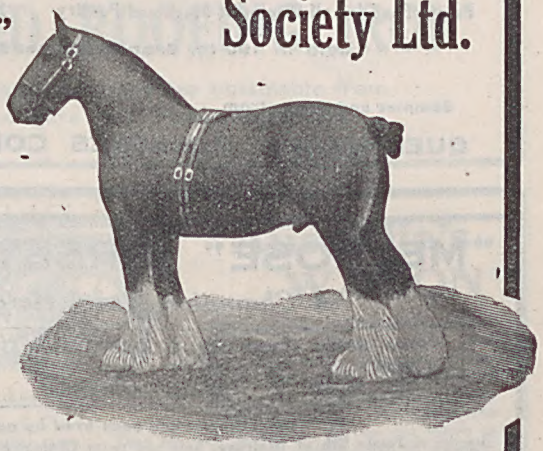

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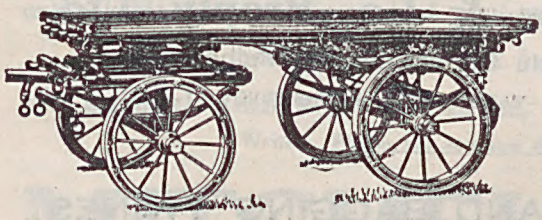

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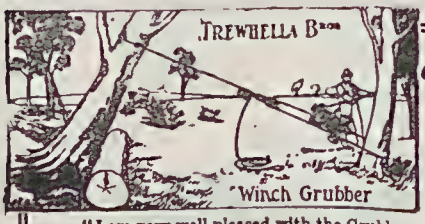

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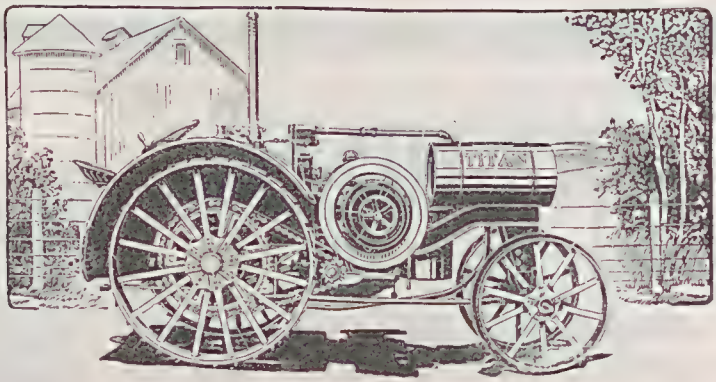

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Department of Agriculture

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VICTORIA.

Vol. XX. **June, 1922.** **Part 6.**

A STUDY OF THE WHEAT YIELDS IN THE WIMMERA AND NORTHERN DISTRICTS,

Illustrating Some Factors Controlling the Progressive Improvement in the Efficiency of a Country's Agriculture.*

In the Wimmera, 16-17-in. rainfall, where 600,000 acres are sown annually to wheat, the average yield per acre for the whole area has been lifted inside 25 years from 7.6 bushels to 19.1 bushels—an increase equal to 151 per cent. In the Northern District, where an equal area is sown, the corresponding increase is 3.4 bushels per acre, or 32 per cent. The rainfall in both districts is similar.

During the past 50 or 60 years the bulk of Australian farmers have given much more attention to the pioneering problems incidental to the development of their virgin lands than they have to raising the standard of their farming methods. And the general success achieved under these conditions has gradually moulded a popular conception of a progressive agricultural policy as a matter of so many acres of Crown lands thrown open and settled. But here and there are instances where, replacing the rough-and-ready pioneering methods, is found a highly developed system of agriculture specially suited to local conditions. The effect of this is always reflected to an amazing degree in the prosperity of the district.

Comparisons of this sort lead one to believe that what to-day is commonly termed successful land settlement in most districts is really a poor thing beside what may be yet achieved. But little progress will be made while present practices are thought satisfactory, and one fundamental problem which those responsible for the propagation of better agricultural methods must face, is that of securing the general recognition of the present methods in most districts as imperfect. That is the first stage on the road to the discovery of superior practices and their general adoption by members of rural communities.

* Address delivered by H. A. Mullett, B. Ag. Sc., Chief Field Officer, at the Annual Convention of the Chamber of Agriculture, held at Horsham, April, 1922.

6369.

The Limiting Factor to Progress.

There is room for considerable clarification in the general conception of the manner in which the progressive improvement of the efficiency of local agricultural methods may be brought about. Commonly it is believed that Governments, through their Agricultural Departments, are almost solely responsible for any slackness in the rate of improvement, but it can be shown that as a rule the limiting factor is local opinion.

In practice the rate of progress is determined by the interplay of several factors. There are those that lead and there are those that resist progress. On the one hand, we have what I may term the "scientific lead," comprising those institutions and individuals whose special business it is to pursue the organized discovery of new scientific facts about agriculture and to secure their propagation broadcast throughout the rural community. Agricultural Departments, University Colleges of Agriculture, special research workers, and scientific agricultural publications are illustrations of the "scientific lead." Then that is supplemented by what I shall term the "local rural lead." By that is meant that body of advanced thought that exists in each local district. It is well known that in every district there are to be found men who farm better than the rest. Others again show special aptitude in devising means of putting into practice ideas which may be supplied to them and which are an advance on previous methods. All these individuals are usually specially receptive of progressive thought, and, in effect, they act as local investigators, demonstrators, and propagandists. Included in the "rural lead," of course, are such organizations as agricultural societies, farmers' bureaux, and the local rural press. On the other hand, there is what may be called the "local inertia"—that is, natural resistance to change on the part of the conservative body of the people.

From these considerations it is fairly obvious that progress will depend on the speed with which new facts can be discovered by scientists and by the best farmers, as well as on the rate at which these facts can be spread against the dead weight of local adverse opinion.

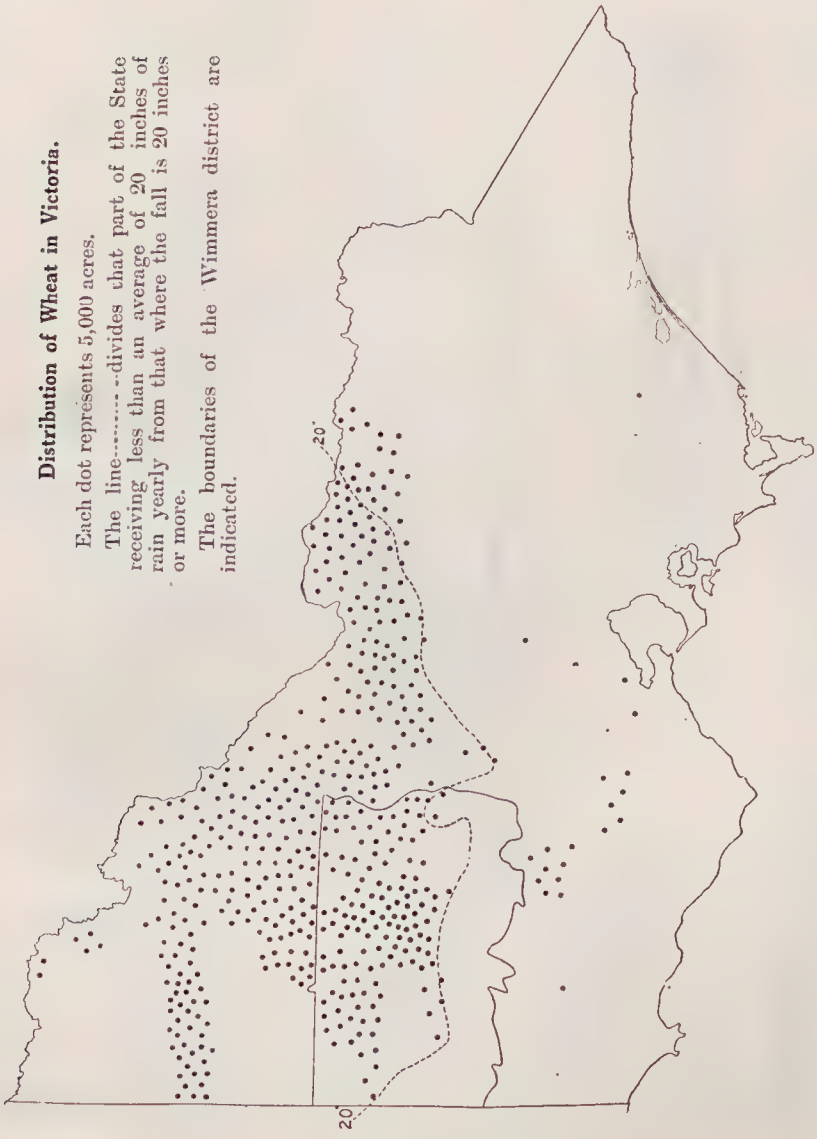
It can readily be demonstrated that new facts in agriculture can be discovered far quicker than they can be spread. And if that is so, it means that the limiting factor in the situation is largely local opinion.

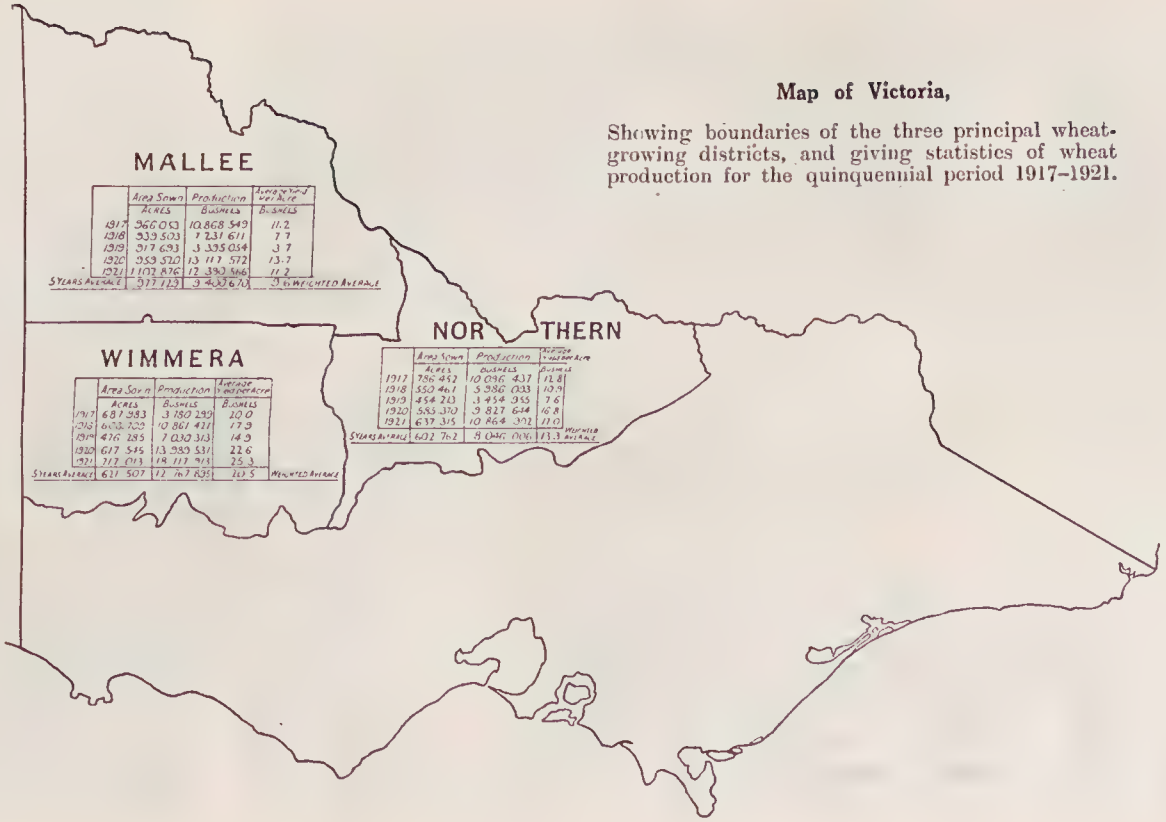
District organizations are in large measure the custodians of local thought on agricultural matters. They are the leaven which quickens the whole. Upon them, therefore, devolves a heavy responsibility. But how inadequately organized is the "rural lead" in most districts! Yet it can be shown that where it is most active there most progress is found.

Twenty-five Years' Progress in the Wimmera.

With the object of illustrating these points, I have made some statistical studies of production in the Wheat Belt. Naturally the Wimmera has been chosen for extended reference, because it is a district which many members of the Convention are visiting for the first time, while its reputation for producing 40-bushel wheat crops over large areas must have excited general interest. Figures will be submitted showing the rate of progress during the past 25 years here, and comparisons will be made with that in other districts.

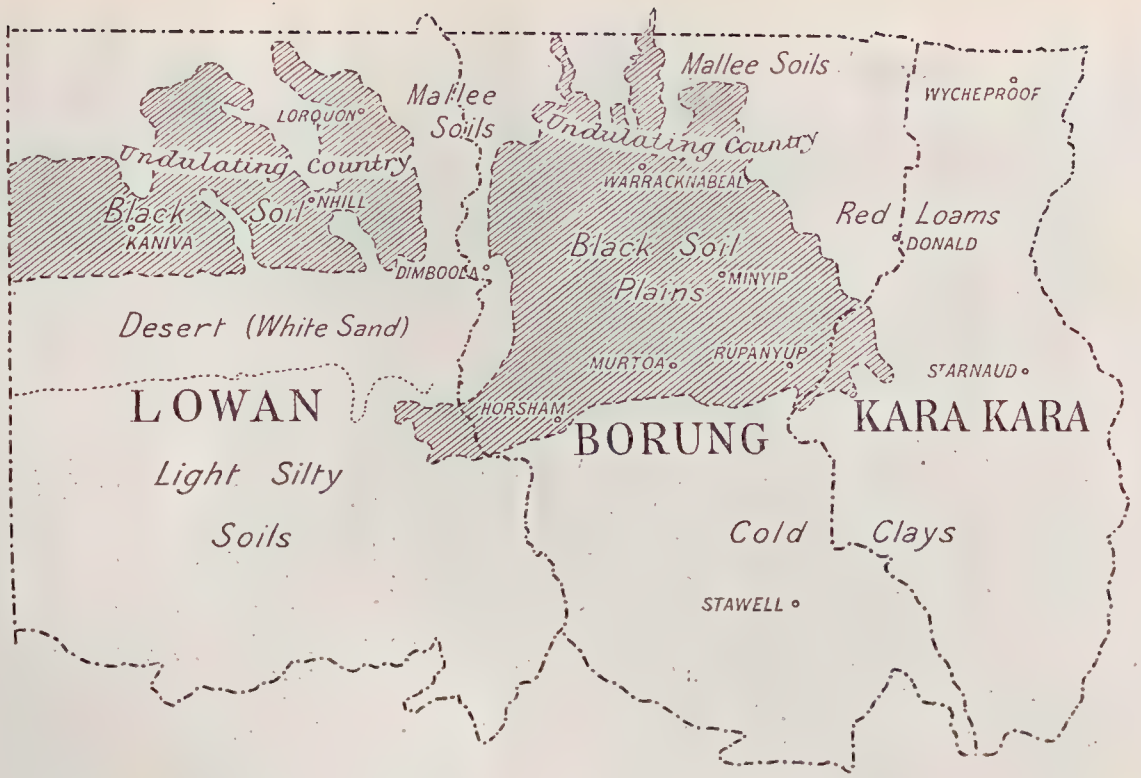
In the first place, it should at once be made clear that the 40-bushel averages are not secured for the whole area; but, nevertheless, the


Distribution of Wheat in Victoria.
Each dot represents 5,000 acres.
The line-------divides that part of the State receiving less than an average of 20 inches of rain yearly from that where the fall is 20 inches or more.
The boundaries of the Wimmera district are indicated.
20
20



Map of Victoria,

Showing boundaries of the three principal wheat-growing districts, and giving statistics of wheat production for the quinquennial period 1917–1921.



Detailed Plan of the Wimmera District, showing the counties and the approximate boundaries of soil types.

NOTE.—The area indicated as black soil is interspersed with red patches. The northern portions of both areas are more or less undulating, the rising ground being as a rule red loam.

average yields for counties in Wimmera are phenomenally high compared with other parts of the State. For instance, at last harvest the Wimmera county of Borung, where 359,000 acres were sown to wheat, the average yield per acre was 28.05 bushels. Other counties in the Northern District, with a corresponding rainfall, and rather less area sown, did not average more than 17 bushels per acre. The State average last year was 16.8 bushels.

Many individual farmers in the Wimmera, however, have frequently obtained yields of 40 bushels and more in recent years. The following concrete instances may be selected at random to illustrate this:—

Table Showing Some Recent Wimmera Yields.

	Acres.	Bushels.
Longerenong Agricultural College, Dooen, 7-year average	300	35
Longerenong Agricultural College, Dooen, average 1921	..	42
Hobbs & Knuckey, Dooen, average 1921	160	50
A. Dunlop, Rupanyup, average 1921	160	49
R. J. Jackson, Rupanyup, average 1920	265	43
R. J. Jackson, Rupanyup, average 1921	265	43
A. H. Krelle, Minyip, average 1921	300	40
R. Blackwood, Nhill, average 1921	250	43¾
R. Blackwood, Nhill, average 1921, best 100 acres	100	48

These are yields which must excite the admiration of practical men. They are typical of many others, and are not at all accidental. The men named regularly secure much higher average yields than their fellows, and they do it because their methods are superior. They represent part of the "local rural lead" which has been referred to. Wimmera agricultural societies have gone much further than any others in the Wheat Belt in bringing to light the best crops each year in the districts and in giving publicity to the methods by which these crops have been raised. The result has been that there are a greater proportion of men farming according to the best-known practice than in any other wheat area. Agricultural societies in other districts are neglecting a most powerful aid to progress in not taking advantage of the valuable experience there is locked up in their own districts. In this connexion a properly-conducted crop and fallow competition is an efficient aid.

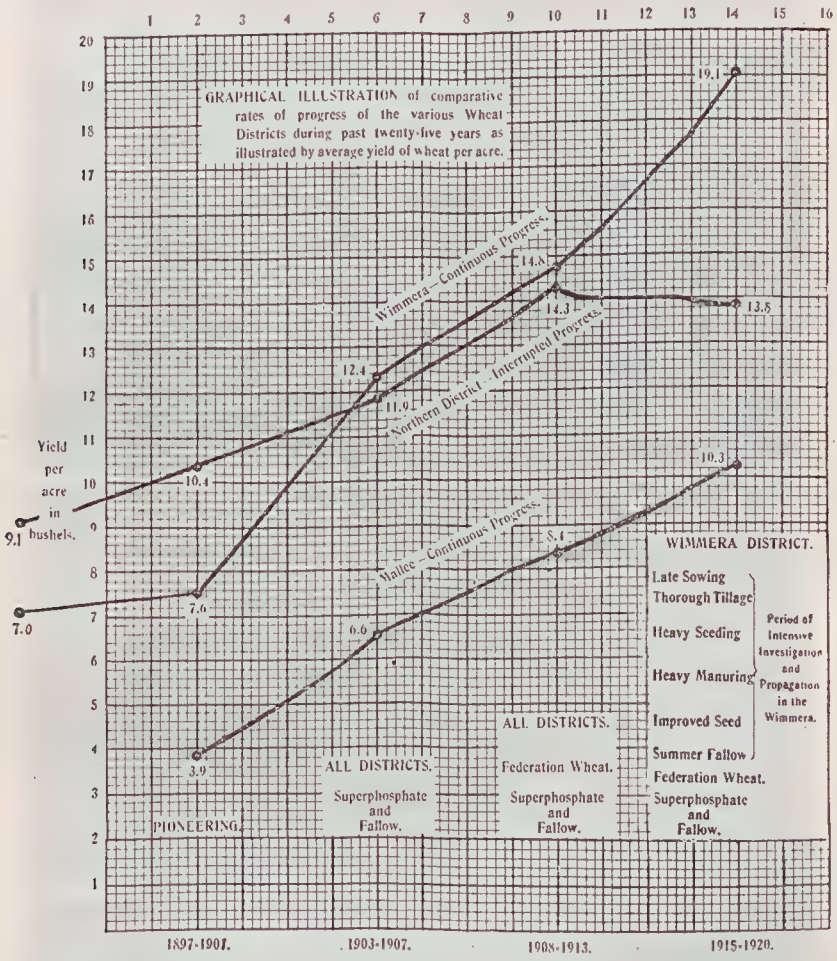
Even in the Wimmera the process of levelling the 20-bushel men up to those who can raise 40 bushels is by no means complete, but it is proceeding at such a pace that it would not be at all surprising to see the average yield of Wimmera permanently raised to 25 bushels per acre during the next ten years.

The instances just quoted will serve for the time being to illustrate the part that can be played by the "rural lead." It will now be necessary to demonstate the *rôle* of the "scientific lead," and to show the reaction to it in the Wimmera and elsewhere.

To fully comprehend this aspect of Wimmera development the clock should be put back 40 odd years. The area should be pictured as it was at that time—an arid sheep-walk. The mind's eye will readily conjure up the struggling pioneers who tilled the soil and grew their five-bag crops and thought them good. The men who came originally to the Wimmera were faced with new conditions. At first they used methods which have since been proved to be totally unsuited to local conditions. They practised deep ploughing, stubble sowing, and early seeding. They were heavily handicapped, and so it was until 20 or 25 years ago; then yields rapidly began to increase, because epoch-making discoveries were made and adopted.

Increased Yields due to Improved Practices.

It is possible to co-relate the increases obtained with the introduction of the discoveries referred to. This may be done by comparing the average yield per acre before and after the discoveries. If sufficiently long periods are taken, say at least five or six years, and big drought



years omitted, the effect of seasonal fluctuations is avoided. The graphical illustration above will give at a glance the history of the upward trend of the yields.

For the period 1892-1896, the average yield per acre of wheat in the three Wimmera counties was 7.0 bushels per acre. For the period 1897-1901 it was only 7.6 bushels per acre. Then superphosphate and seed drills were introduced. The idea of manufacturing superphosphate had originated in the brain of the German scientist, Liebig, many years before, and it was Sir John Lawes who successfully reduced the idea to a commercial process. But it remained for Mr. A. N. Pearson and Dr.

Consistent Wheat Growing in the Wimmera.

Five Prolific Crops Grown by Mr. Robert Blackwood, Nhill, in successive years.

I.—Portion of 160 acres, 1917. Awarded first prize, Nhill Farm Competitions Average yield, 45 bushels per acre.

II.—This crop was awarded second prize in the Nhill Farm Competitions, 1918. The yield was not less than 36 bushels per acre.

III.—Awarded Second Prize, Nhill Farm Competitions, 1919. 100 acres. Average yield, 30 bushels per acre. (Rainfall during growing period, 7 inches only.)

IV.—Crop of Federation, 1920. Average yield not less than 33 bushels.

V.—250 acres, 43¾ bushels per acre. Best 100 acres, 48 bushels per acre. Awarded First Prize, Nhill Farm Competitions, 1921.

Howell to demonstrate to Victorian wheat farmers the value of the manure. Much scepticism was naturally met with at the start; but so potent was the influence of the small sprinkling of manure advocated—about 56 lbs.—that yields rapidly mounted. About this time it was becoming clear to advanced farmers that systematic bare fallowing—a practice long known—was essential for maximum crops on the rainfall of the Victorian Wheat Belt. The 1902 drought brought it home to many in a decisive fashion that stubble crops were a failure. Science supplied

I.—Crop of Federation, 265 acres averaging 43 bushels per acre, 1920. Mr. R. J. Jackson, Rupanyup.

II.—Portion of 270 acres, Federation, averaging 43 bushels per acre, 1921. Mr. R. J. Jackson, Rupanyup.

the explanation of the success of bare fallowing that moisture was saved for the growing crop from the year before, and suggested better methods of conserving the maximum of moisture by more efficient mulching.

The net result of these momentous advances was that in a decade the average yield per acre of the three Wimmera counties was lifted by 4.8 bushels per acre, comparing the two five-year periods.

Then what might be termed the Federation era was entered upon. This wheat was first introduced in 1904. It was the definite creation of

the scientist Farrer for Australian conditions. By the end of the next five years it had completely ousted the old types, and added at least a couple of bushels to the average yield per acre.

These discoveries were shared by farmers in the other wheat districts, though the recognition of the value of fallowing there has never been quite so keenly realized.

By the 1908-1913 period the average yield per acre in the Wimmera had thus reached 14.8 bushels per acre. Then the *post* 1914 period follows.

Despite the fact that no epoch-making discoveries were made comparable with superphosphate, Federation wheat, or the value of fallowing, advances were witnessed as great as any before. It was a period of careful exploration of most of the factors involved in local wheat cultivation, and of the propagation of the discovered facts from experimental field and advanced farm to farmers at large. The result was that the average yield for the six years ending 1920 was 19.1 bushels per acre—an increase on the previous six-year period of 4.3 bushels per acre, and 11.5 bushels, or 151 per cent. better than the five years 1897-1901. Than this, I believe, nothing could more clearly indicate the part played by the "scientific lead," and a comparison of the average Wimmera yields with those of some of the best men indicates that even greater advances could be shown by a study of the yields of the best farmers. The difference between these yields and the Wimmera average, too, is to some extent a measure of the local resistance to the scrapping of obsolete practices.

But if these are the changes which have been wrought in the Wimmera, what has been the reaction in other districts? The Northern District, comprising the counties of Moira, Gladstone, Gunbower, Rodney, and Bendigo, is the only other statistical district with an equal area sown to wheat and enjoying a similar rainfall. The soils are somewhat different, but it cannot be argued that there is more good land under cultivation in the Wimmera than in the Northern District. Ten years ago the black Wimmera soil was not regarded as so productive as it is to-day. One's idea of the value of a soil grows as the methods of cultivating it are perfected.

TABLE SHOWING AVERAGE WHEAT YIELDS FOR THE PERIOD 1897-1920, IN QUINQUENNIAL OR SEXTENNIAL PERIODS, FOR WIMMERA, MALLEE, AND NORTHERN DISTRICTS

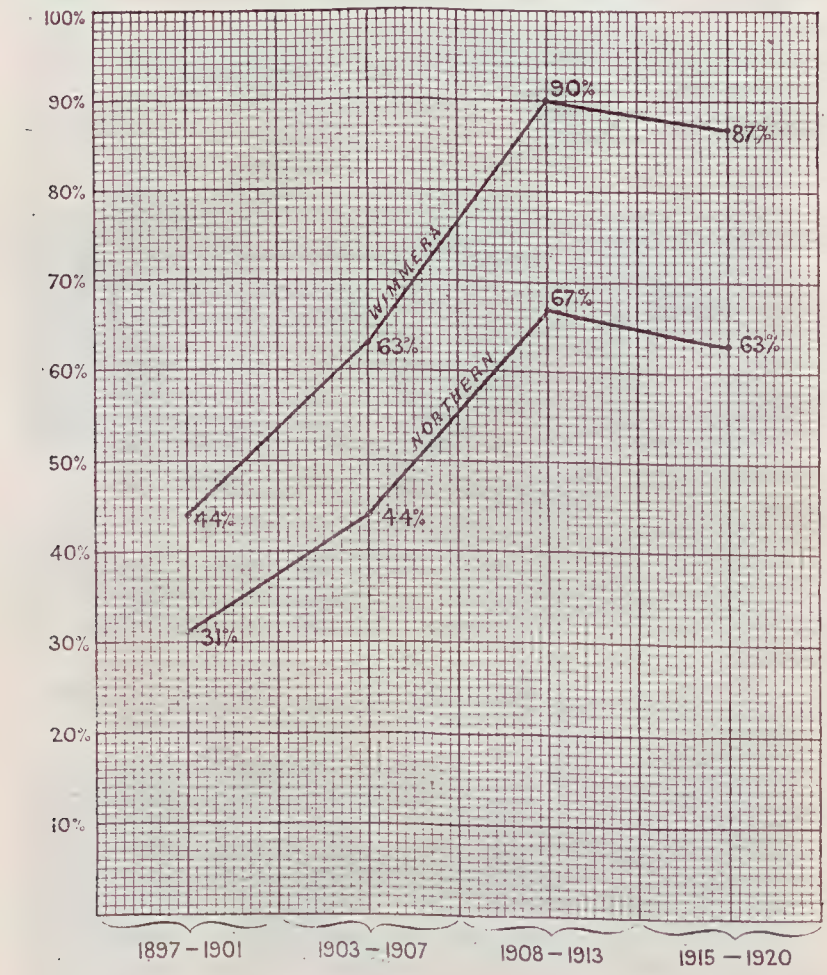
Period.	Wimmera.		Mallee.		Northern.	
	Area Sown.	Yield.	Area Sown.	Yield.	Area Sown.	Yield.
	acres.	bush. p.a.	acres.	bush. p.a.	acres.	bush. p.a.
1897–1901 ..	610,320	7·6	622,314	3·9	590,313	10·4
1903–1907 ..	624,617	12·4	631,982	6·6	638,996	11·9
1908–1913 ..	617,611	14·8	661,014	8·4	671,840	14·3
1915–1920 ..	681,342	19·1	1,049,803	10·3	714,880	13·8
Net increase	..	11·5	..	6·4	..	3·4

NOTE.—(1) The figures given for average yield per acre are the true "weighted" averages. (2) The years 1902 and 1914 were drought years of such severity that little or no wheat was harvested. They have been omitted.

A glance at the table shows that while the Wimmera advanced 11.5 bushels per acre, the Northern District moved from 10.4 to 13.8, an increase of only 3.4 bushels in twenty odd years.

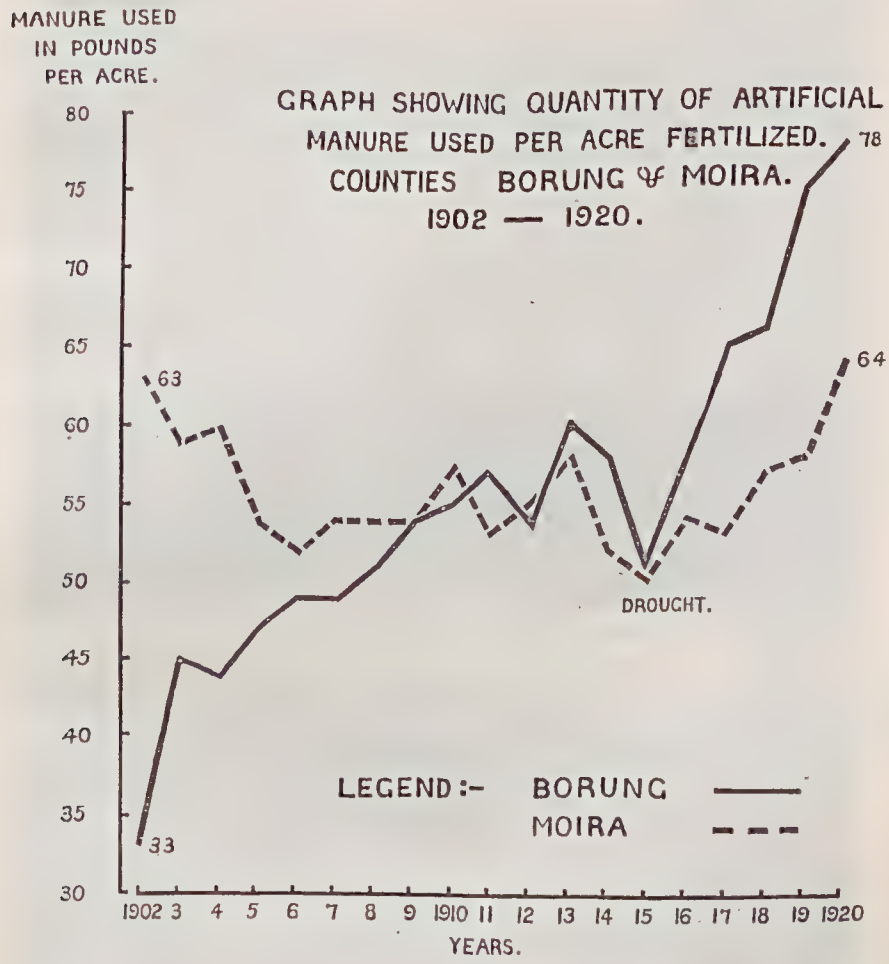
During the *post* 1914 era, a period of great advancement for the Wimmera, the Northern District yields actually declined by .5 bushel per acre.

GRAPH showing percentage of Wheat Crop sown on fallow in Wimmera and Northern Districts.



It will be noticed that generally there is a poorer reaction in the Northern District following on the introduction of the improved practices. In other words, it means that there a smaller percentage of the farmers have adopted the improvements in full. This is well illustrated by a comparison of statistics in both areas for the percentage of the wheat crops grown in fallow each year and by the quantity of fertilizer used per acre in each district.

The careful fallowing of all wheat sown and the application of a liberal quantity of fertilizer, up to at least 1 cwt. per acre, have been strenuously advocated as fundamental for the success of the wheat crop in both districts. But it will be noted from the graph on page 332 that while there has been a steady increase in the percentage of wheat sown in fallow in both districts, the Northern District has always lagged behind to the extent of from 13 per cent. in the earlier years to 24 per cent. in recent years. For the period 1915-1920, 87 per cent. of Wimmera wheat was sown in fallow, while in the Northern District the percentage was only 68 per cent.



The slight falling off in the percentage of wheat sown in fallow in both districts during this particular period is due to the stubble sowing in 1915 following on the 1914 drought.

The graphical representation of the quantity of artificial fertilizer, comparing the Wimmera county of Borung with the northern county of Moira, presents an even more striking picture of the relatively slower rate at which improved practices are being adopted in the Northern District.

It shows the steady increase in the quantity of superphosphate used per acre in the Wimmera following the propaganda issued by the Agricultural Department. In the Wimmera county in 1902 only 33 lbs. were used per acre as an average, but by 1920 the amount used had been raised to 78 lbs. per acre, *i.e.*, an increase in the average dressing of 45 lbs. per acre over the whole area. In Moira there has been no corresponding increase; 64 lbs. were used per acre in 1902, and by 1920 it has been raised to only 66 lbs.

Of all the periods considered it will be noted that it is in the last one that the greatest difference between the comparative rate of progress in the two districts occurs. While the Wimmera has gone ahead 4.3 bushels for three counties, the Northern District has made no apparent advancement as indicated by the yield per acre. And in this connexion

A Fifty-bushel Crop grown by Messrs. Hobbs and Knuckey, Horsham, 1921.

it is worthy of note that during the past decade no less than seven distinct improvements in farming practice in the Wimmera have been recognised and largely adopted there. They are—

1. The discovery of the value and the adoption of June and July sowing, which confers a 4-bushel increase over May sowing in Wimmera.
2. The recognition of the value of thorough tillage of the fallow and the standardization of the methods of working the fallows. At least seven, and as many as fourteen, separate operations are now given by the most successful men, and the fallow is scientifically constructed.
3. The discovery of the value and the adoption of heavy seeding.
4. The discovery of the value and the adoption of heavy dressings of superphosphate.
5. The recognition of the value of selected seed.
6. The discovery and recognition of the value of the summer or fifteen months' fallow.

It does not follow, of course, that all of these practices are applicable elsewhere. Some of them certainly are not; but if not these, then other means of improvement are discoverable.

Some of the discoveries enumerated were made by a farmer and some by a scientist. But it is to the undoubted credit of the Wimmera Agricultural Societies that they had been made. In what they did they have been ably backed up by the agricultural press, a potent factor for

Open-air Lecture and Demonstration, Farmers' Field Day, organized by Nhill Agricultural and Pastoral Society.

Demonstrating the Good Points of the Winning Fallow at the Annual Crop and Fallow Competition organized by the Nhill Agricultural and Pastoral Society.

the dissemination of knowledge. These societies have sedulously fostered local experimental work. There are four separate experimental fields now in the district. The societies have been assiduous in promoting educational movements with the object of discovering improved practices

on individual farms and of passing them on. They have not regarded their activities as beginning and ending with the local show. For instance, for 21 years the Nhill Agricultural Society has held a crop and fallow competition, the objects of which are to discover the best crops in the district and to publish the information obtained broadcast.

Following that lead, twelve Wimmera and Mallee Societies now hold similar competitions. The Horsham Society as well has a seed selection competition, and this year has inaugurated a competition with a view to improving the grain sample of the district.

The continued success in public competition of crops grown by certain methods has pointed to their advantage. Summer fallowing was one such method brought into prominence; and the competitions have also been the means of practically standardizing the methods of working the fallows. But the greatest advantage of the work of the agricultural societies has been the opportunity afforded of demonstrating the success of the improved practices by direct personal illustration. One example

Farmers' Field Day—Government Experimental Plots, Warracknabeal.

serves to show what is meant. Two years ago a crop and fallow competition was started at Warracknabeal. It was noticed that the competitors were using less seed and manure per acre than had been proved profitable elsewhere. District farmers were, therefore, urged personally, as well as through the press, to increase their dressings of seed and fertilizer up to that level. This year a canvass showed that 20 competitors had increased seed by an average of 10 lbs. per acre, and superphosphate by 11 lbs.—that is practically up to the desired limit. And so with summer fallowing. Because summer-fallowed crops repeatedly won the competitions, large numbers of farmers had begun to practise the method and found it an advantage.

During the same period there was little corresponding activity among local agricultural bodies in the Northern District. There were no experimental fields there, and no organized method of ascertaining the best local practice and giving publicity to it. A question that naturally arises is: Does that not to some extent explain the smaller rate of progress there as illustrated by the average yield per acre? If the explanation suggested is the correct one, other districts—not only those in

the Wheat Belt—have much to gain if their local agricultural organizations will foster the discovery and propagation of new knowledge in their district.

Summary.

There is a remarkable difference between the average wheat yields obtained in certain counties in the Victorian Wheat Belt. Investigation shows that the high yields are associated with the adoption of specially efficient farming practices. In evolving these, scientists and leading farmers each play a part, and usually discover valuable facts far quicker than the general community can be induced to put them into practice. In districts where the biggest advances have been made, local agricultural bodies are best organized. The great retarding force to the adoption of new practices is the traditional conservatism of the farming community. In overcoming that the organizations that lead local opinion play a most important part. The interplay of these factors controlling the rate at which improvement in agricultural efficiency takes place, are studied with reference to the Wimmera and the Northern Districts, which are similar in respect to rainfall and area sown to wheat. In 25 years the average yield of the Wimmera has been advanced 151 per cent., comparing five-year periods, while the corresponding increase in the Northern District is 32 per cent. For the greater part of the period the same scientific discoveries have been available to both districts, but in the Wimmera they have been adopted at a faster rate. In the last decade, during which time the yield of the Northern District has remained practically stationary, that of the Wimmera has been advanced by 4.3 bushels per acre. The period has been one of great activity in investigatory and propaganda work in the Wimmera, but little or nothing of a similar nature has been done by the Northern District. The results of the study suggest that in other districts the local agricultural organizations should endeavour to foster the discovery and propagation of new knowledge in their districts. Above all they should endeavour to create a greater receptivity in the minds of the people in their community to improved practices.

THE PROGRESS OF COUNTY-AGENT WORK IN THE UNITED STATES.

The great increase in the expenditure of county-agent work in the United States is indicated by the following little table from the United States Department Circular 179, which shows the amounts contributed by the various forms of government in the years 1915, 1917, and 1921, and the totals:—

Source.	1915.	1917.	1921.
	Dollars.	Dollars.	Dollars.
Federal	320,059	538,074	1,491,502
State	165,068	375,111	941,434
County	482,345	732,339	3,148,930
Total	967,472	1,627,524	5,581,666

REPORT OF ELEVENTH VICTORIAN EGG-LAYING COMPETITION, BURNLEY.

A. V. D. Rintoul, N.D.D., Chief Poultry Expert.

FEATURES OF THE COMPETITION.

Returned Soldier's Success.

Perhaps one of the most pleasing features of the Eleventh Egg-laying Competition at Burnley was the success of a returned soldier poultry farmer, Mr. C. C. Langley, whose team of six White Leghorns won the wet-mash section with a total score of 1,394 eggs for the year. This success is a great tribute to Mr. Langley's own unbounded energy. Building up a successful poultry farm on limited capital is bound to call out all that is best in a man, and Mr. Langley has, in addition to working hard on his farm by day, worked in Melbourne nightly during the past few winters in order to earn money to build more sheds for his increasing flock. His team of birds were a remarkably even lot, as will be noted from the fact that the lowest score in the trap-nests was 226 and the highest 241.

Mr. C. C. Langley's Winning Team of White Leghorns in the Wet Mash Section. (1,394 eggs.)

[Darge, Photo.

Improving the Type.

In their anxiety to secure eggs, there has been for several years past a tendency on the part of some breeders to ignore type, and the rule requiring all competing birds to be fair specimens of their breed had been somewhat liberally interpreted. At the commencement of this competition, however, the birds were more closely examined, with the result that 34 birds in all, representing almost 6 per cent., were disqualified on type. In view of the world-wide renown of the Victorian birds, this step was unavoidable, and the result is borne out in the new competition just commenced, wherein it has been necessary to disqualify only eight birds on type (about $1\frac{1}{4}$ per cent.).

I must admit, frankly, that the question of real type is barely as clearly cut an issue as it should be, because exhibition poultry (like utility poultry) are quite as often judged on the whim of the judge as on the actual standard, nevertheless for the future at Burnley Egg-Laying Competition there must be no doubt in any one's mind as to what breed any competing bird really represents. Recently the news reached Australia that there has been formed in Great Britain an "Australorp" Club, with its own standard laid down by Mr. W. Powell Owen for the new (?) breed—Australorps! The so-called standard is replete with unconscious humour, and we in Australia trust that practical breeders in Great Britain will join with us (presently) in ignoring it. About the worst feature is the decision that any bird over 6 lbs. weight shall be disqualified. May I again point out that the Black Orpington owned by Mr. C. E. Graham, of Portarlington, weighed 6½ lbs. when she laid 335 eggs in official test in the year.

Mr. P. F. Marville's Winning Team of Black Orpingtons. (1,344 eggs.
[Darge, Photo.

Seeing that an Orpington pullet should weigh 7 lbs., and a hen 8 lbs., it is a pity to abnormally reduce the weight. At present, for Burnley, a six-months Black Orpington pullet must weigh not less than 5 lbs. to be admitted for competition.

The standard laid down recently by Mr. Powell Owen would automatically disqualify Mr. Graham's world-famous hen. As a matter of fact, the utility Orpington standard to-day in Victoria calls for the Orpington as originated by the late William Cook, and this fact was admitted and commented on by Mr. House, the well-known English writer and judge, when he went round the Burnley pens with me on 30th March last. Another distressing feature of the "Australorp" standard is the admission of purple barring. To my mind purple barring is most objectionable, and the Orpington standard calls for "green" sheen.

As regards our White Leghorns there is, in some quarters, a desire to have a weight limit of 3½ lbs. imposed on admission to the competition. It should be borne in mind that these birds frequently come on lay at from four and a quarter to four and a half months old, and also that the journey to Burnley and subsequent change of environment are liable to put a bird off lay; consequently birds are usually sent to Burnley that are just about to start laying, with the result that somewhat immature birds are sent by some of the cleverest breeders. Even with slower maturity in the British climate (which means a slightly older bird at

Mr. N. Meyers' Winning Bird in the Dry Mash Single Test. (290 eggs.)
[Darge, Photo.

the commencement of laying), the competition limit at the biggest British competition—Harper Adams Agricultural College—is 3 lbs. for White Leghorns.

A further point is that many of the best American White Leghorns are considerably smaller than ours. New blood will be needed ere long, and it would be a pity to ban an importation of the best American laying strains.

Individual Performances.

Mr. Norman Meyers followed up his success in the previous competition by winning the White Leghorn Dry Mash Teams (trap-nest) with the useful score of 1,552, his best bird laying 282, and was also first in the Dry Mash Single Test, with 290, and equal second, with 285.

Mr. G. McDonnell, who had a phenomenal run of success at Burnley, was equal second with Mr. N. Meyers, with a score of 285, and won the

Messrs. Herbert Bros.' Trap-nest Winner. (299 eggs.)

Mr. N. Meyers' Winning Team of White Leghorns in the Dry Mash Section. (1,552 eggs.)

[Darge, Photos.

weight of eggs prize with an average of 25.469 ozs. per dozen for the whole year.

Messrs. Herbert Brothers were first and second in the White Leghorn Wet Mash Single Test with 293 and 282, and had a bird in the trap-nest section that scored 299; it was unfortunate that seven eggs were laid outside the trap-nests by the six birds, as otherwise the score might possibly have reached the 300 mark.

Mr. J. Ryan's Rhode Island Red laid the highest score for the competition, exactly 300 eggs.

Mr. J. Quinlan had a Black Orpington trap-nested for 296.

Mr. F. Gaskell had a White Leghorn trap-nested for 295.

Mr. A. Enticknap was again prominent with the good score of 1,541 for his team. Mr. W. A. Shevill and the Marville Poultry Farm won the two Black Orpington sections with scores of 1,475 and 1,344 respectively.

Mr. Jas. Ryan's Rhode Island Red. With the highest score for the competition (300 Eggs).

[Darge, Photo.

Financial Returns.

The birds averaged 212¼ eggs per bird for the year.
Eggs laid averaged 1s. 9¾d. per dozen for the year.
The cost of food averaged 3¼d. per bird per week.
Return from sale of eggs, £1 12s. 0½d. per bird.
Less cost of feed, 14s. 1d. per bird.
Return over feed bill, 17s. 11½d. per bird for the year.

Mr. A. G. Stevens' Black Orpington—Winner of Single Test (284 eggs).

Kreira Poultry Farm's Rhode Island White (240 eggs). [Darge, Photos

Eggs Laid Outside the Trap Nest.

Table III., on page 351, gives the percentages of eggs laid outside the trap-nests, while Tables I. and II., on pages 349 and 350, show the results for the two preceding years. Dr. Raymond Pearl expressed the opinion that 1 per cent. of eggs laid outside the trap-nests would probably be found to be the irreducible minimum, so that this year's returns—0.62 per cent.—not only probably constitute a world's record in accuracy, but are a greater tribute to the abilities of Mr. Macaulay and his assistants than any eulogy that I could write. Time will show whether this wonderful achievement can ever be beaten.

Mr. W. A. Shevill's Winning Team of Black Orpingtons in the Wet Mash Section (1,475 eggs).

[Darge, Photo.

Feeding System.

The birds were fed as follows:—

Wheat pollard and wheat bran equal parts, with about 10 per cent. oaten pollard, mixed with liver soup, and greenstuff added to the extent of about 30 per cent.

Greenstuff and raw chopped onions fed freely.

The dry mash is similar to the wet mash, but the greenstuff and meat are fed separately.

Weight of Eggs.

The prize for highest average weight of eggs was won by Mr. G. McDonnell, but there were too many pens just under the 24 ozs. per dozen throughout the year.

Eighteen pens laid over 24 ozs. to the dozen, 24 other pens laid over 23½ ozs. to the dozen, and five pens laid over 23 ozs. but under 23½ ozs.

This should be very carefully noted by the breeders, as it is most essential, if an export trade be firmly established, that 24 ozs. per dozen shall be the *irreducible minimum*, instead of actually the majority just failing to reach this standard.

It is of interest to note that Messrs. Herbert Brothers' White Leghorn wet-mash pen averaged 24.822 ozs. per dozen, whilst the same breeders' dry-mash fed team averaged 24.818 ozs. per dozen, which would indicate that the system of feeding either wet or dry mash has no direct bearing on the size of egg yielded, and these weights are quite satisfactory from an export point of view.

Single Test Criticism.

Pen	Score	
1.	155 eggs.	Round bone; flesh former.
2.	222 eggs.	Moulted unevenly; fair laying type.
3.	208 eggs.	Rather soft plumage.
4.	165 eggs.	Very broody; weak in front of eye.
5.	208 eggs.	Good head and feather; barely Rhode Island type.
6.	240 eggs.	Better type, nice quality throughout.
7.	203 eggs.	Fair type.
8.	188 eggs.	Spoilt by broodiness.
9.	138 eggs.	Too light in eye; trifle weak in stamina.
10.	176 eggs.	Poor colour; heavy skull; rather cloddy type.
11.	234 eggs.	On the small side; twice broody.
12.	166 eggs.	Coarse style, fails in front.
13.	211 eggs.	Decent type, but poor colour; went broody.
14.	235 eggs.	Fair type, uneven colour; went broody.
15.	247 eggs.	Lacks type, fails in front; went broody.
16.	300 eggs.	Nice type, excellent face, and plenty of stamina.
17.	196 eggs.	Close feather, but barely up to type; lacks balance.
18.	58 eggs.	Sour, wrinkled face; plumage lacks sheen.
19.	79 eggs.	Very soft in feather, but should have done better.
20.	190 eggs.	Hollow and weak face.
21.	200 eggs.	Fair Orpington type; poor comb; went broody.
22.	235 eggs.	Soft feather, leans slightly to Minorca type.
23.	233 eggs.	Close feather, rather on small side but weighty; lays a good egg.
24.	221 eggs.	Weak face; went broody.
25.	161 eggs.	Been ill; lays a good sized egg.
26.	259 eggs.	Very nice hen, good bone and face.
27.	203 eggs.	Close feather, but rather heavy skull.
28.	201 eggs.	Decent sort of hen; moulted early.
29.	265 eggs.	Whitish lobes; insufficient webbing in feather.
30.	184 eggs.	Good face; persistent broody.
31.	220 eggs.	Was sick early in the competition; rather coarse skull.
32.	267 eggs.	Good feather and bone, type could be improved.
34.	154 eggs.	Loose feather.
35.	269 eggs.	Good face and feather, splendid body, lays good egg.
36.	208 eggs.	Weak in type.
37.	264 eggs.	Good bone, fair face; feather rather loose but well webbed.
38.	208 eggs.	Fair type; rather pale face generally.
39.	260 eggs.	Good strong head and bone; went broody.
40.	—	Returned.
41.	222 eggs.	Good head and bone; purple sheen on feathers.
42.	260 eggs.	Good hen throughout; moulted.
43.	174 eggs.	Strong hardy bird; very heavily feathered.
44.	223 eggs.	Lightish eye; heavily feathered.
45.	210 eggs.	Good head and bone; moulted early; went broody.
46.	208 eggs.	Rather heavy bone; close feather.
47.	176 eggs.	Thick in head; sunken eye.
48.	174 eggs.	Barely up to type.
49.	156 eggs.	Nice hen; very broody.
50.	220 eggs.	Persistent broody.
51.	171 eggs.	Poor colour; trifle coarse.
52.	193 eggs.	Close feather; persistent broody.
53.	256 eggs.	Hardy sort; neat head; went broody.

SINGLE TEST CRITICISM—*continued.*

Pen	Score	
54.	..	
55.	193 eggs.	Good Orpington type, but loose feather.
56.	155 eggs.	Dull; not a layer.
57.	284 eggs.	Nice face and eye.
58.	280 eggs.	Very good face and eye, but on the light side for a breeder.
59.	232 eggs.	Rather light throughout, though nice face and eye.
60.	183 eggs.	Fair class of hen; went broody.
61.	221 eggs.	Solid type of hen, rather weak skull for her size, whitish lobes.
62.	223 eggs.	Good type for breeding; moulted rather early.
63.	..	
64.	213 eggs.	Good hen; moulted early.
65.	224 eggs.	Continually broody, otherwise a nice sort.
66.	..	
67.	151 eggs.	Weak in type; coarse skull.
68.	207 eggs.	Fair sort; went broody.
69.	178 eggs.	Rather weak Orpington type.
70.	212 eggs.	Good style of hen; went broody.
71.	252 eggs.	Close feather, strong constitution, inclined to be weak in face.
72.	—	Died.
73.	251 eggs.	Slow in starting to lay; good useful sort to breed from.
74.	195 eggs.	Persistent broody.
75.	213 eggs.	Nice type; both went broody.
76.	237 eggs.	
77.	160 eggs.	Sour face; out of balance.
78.	124 eggs.	Likely layer. *Score unaccountable.*
79.	245 eggs.	Nice head and feather, but narrow over the saddle.
80.	178 eggs.	Rather flat face, with soft feather.
81.	269 eggs.	Small, but good type.
82.	254 eggs.	Soft feather; early moult spoilt the score.
83.	270 eggs.	Soft feather, but good head.
84.	272 eggs.	Rather narrow across the saddle.
85.	227 eggs.	Racy sort; moulted early.
86.	155 eggs.	Good appetite, inclined to lay on flesh.
87.	176 eggs.	Moulted twice.
88.	248 eggs.	Hard feather; racy type.
89.	259 eggs.	A nice sort; good feather; lays good sized egg.
90.	247 eggs.	Good useful sort.
91.	279 eggs.	Rather light for stud purposes; went broody.
92.	243 eggs.	Fair average hen.
93.	270 eggs.	Nice sort to breed from; lays good sized egg.
94.	240 eggs.	Good type; strong hen throughout.
95.	263 eggs.	On the small side, otherwise nice type.
96.	255 eggs.	A trifle soft in feather.
97.	171 eggs.	None too robust.
98.	107 eggs.	Good laying type. *Score unaccountable.*
99.	233 eggs.	Good type to breed from.
100.	236 eggs.	Weak face.
101.	261 eggs.	A good performer; moulted early.
102.	206 eggs.	Lacks stamina.
103.	184 eggs.	Moulted early.
104.	146 eggs.	Broody.
105.	236 eggs.	Fair laying sort of questionable ancestry.
106.	265 eggs.	
107.	252 eggs.	Nice laying type.
108.	285 eggs.	Good laying type. A cold probably spoilt a still better score.
109.	216 eggs.	Moulted early; soft feather.
110.	273 eggs.	Good type throughout.
111.	268 eggs.	Rather narrow behind, otherwise nice type.
112.	264 eggs.	Good body and type.
113.	285 eggs.	Sound, hardy, laying type; valuable breeders.
114.	290 eggs.	
115.	238 eggs.	Rather weak face.

SINGLE TEST CRITICISM—*continued.*

Pen	Score	
116. ..	230 eggs.	A bit small to breed from.
117. ..	257 eggs.	Hardy, but both on the small side.
118. ..	263 eggs.	
119. ..	271 eggs.	Good laying type ; close feather.
120. ..	253 eggs.	Not so close in feather ; cuts away in front.
121. ..	220 eggs.	Moulted on arrival ; good type.
122. ..	276 eggs.	Vigorous breeder.
123. ..	214 eggs.	Soft feather.
124. ..	251 eggs.	Looks better than her score.
125. ..	263 eggs.	Inclined to be weak in face.
126. ..	139 eggs.	Indifferent health.
127. ..		
128. ..		
129. ..	237 eggs.	Looks worth a higher score.
130. ..	252 eggs.	Good type ; moulted early.
131. ..	258 eggs.	Rather flat sided ; moulted early.
132. ..	267 eggs.	Hardly the type, but very good feather and bone.
133. ..	153 eggs.	Lacks stamina.
134. ..	226 eggs.	Just a bit small.
135. ..	30 eggs.	Bad health.
136. ..	223 eggs.	Indifferent type.
137. ..	209 eggs.	Broke down early.
138. ..	96 eggs.	*Score unaccountable.*
139. ..	224 eggs.	Moulted early.
140. ..	237 eggs.	Good type, but soft feather.
141. ..	—	Died.
142. ..	241 eggs.	Rather small for breeding purposes.
143. ..	161 eggs.	Good size, but very soft feather.
144. ..	259 eggs.	Hard feather, but just fair type.
145. ..	182 eggs.	Soft in feather.
146. ..	241 eggs.	Good body ; nice type.
147. ..	244 eggs.	Good hardy sort throughout.
148. ..	249 eggs.	Good face and eye ; close feather.
149. ..	—	Moulted early; very fast layer.
150. ..	238 eggs.	Weak in type.
151. ..	91 eggs.	Looks good sort of hen. *Score unaccountable.*
152. ..	235 eggs.	Good feather ; splendid body.
153. ..	213 eggs.	Loose feather ; rather flat face.
154. ..	195 eggs.	Loose feather ; not strong enough constitution.
155. ..	218 eggs.	Sour face ; good feather.
156. ..	236 eggs.	Fair face and eye.
157. ..	178 eggs.	Good size ; rather soft feather.
158. ..	216 eggs.	Barely up to type.
159. ..	234 eggs.	Fair class of hen ; rather narrow front.
160. ..	258 eggs.	Good head ; narrow throughout.
161. ..	223 eggs.	Weak face ; a bit small.
162. ..	237 eggs.	Decent sort, but soft feather.
163. ..	239 eggs.	Good breeding type, but rather soft feather.
164. ..	159 eggs.	A bit flat sided.
165. ..	—	Died.
166. ..	166 eggs.	Narrow behind.
167. ..	224 eggs.	Fair sort, somewhat narrow in front ; inclined to lay soft shelled eggs.
168. ..	153 eggs.	Fails in front ; soft feather.
169. ..	149 eggs.	Weak in type and colour.
170. ..	161 eggs.	Narrow behind.
171. ..	208 eggs.	Flat face ; narrow across the saddle.
172. ..	187 eggs.	Soft feather.
173. ..	247 eggs.	Fair body ; rather weak face.
174. ..	—	Died.
175. ..	181 eggs.	Should have done better : fair sort.
176 ..	183 eggs.	Sour face.

SINGLE TEST CRITICISM—*continued.*

Pen	Score	
177. ..	125 eggs.	Soft feather; over fine in texture.
178. ..	128 eggs.	
179. ..	190 eggs.	Both too light.
180. ..	209 eggs.	
181. ..	180 eggs.	Looks better than her score.
182. ..	98 eggs.	Too fine; soft feather.
183. ..	147 eggs.	Both moulted twice.
184. ..	183 eggs.	
185. ..	207 eggs.	Trifle gamely; narrow behind.
186. ..	207 eggs.	Good sized egg; rather narrow behind.
187. ..	156 eggs.	Sour face; beefy type.
188. ..	220 eggs.	Weak type.
189. ..	205 eggs.	Over fine in skull.
190. ..	146 eggs.	Weak type.
191. ..	173 eggs.	Cuts away in front.
192. ..	241 eggs.	Fair type; hardy sort.
193. ..	233 eggs.	Fair head, but out of balance.
194. ..	229 eggs.	Poor type.
195. ..	224 eggs.	Tall and narrow.
196. ..	238 eggs.	
197. ..	145 eggs.	Soft in feather; moulted twice.
198. ..	177 eggs.	
199. ..	235 eggs.	Good face, but weedy sort.
200. ..	210 eggs.	Weak face; soft feather.
201. ..	182 eggs.	Flat face.
202. ..	261 eggs.	Hard feather; good skull.
203. ..	226 eggs.	Sour face.
204. ..	177 eggs.	Good feather, but narrow behind.
205. ..	177 eggs.	Fair feather; cuts away in front.
206. ..	130 eggs.	Strong bodied hen, inclined to beefiness.
207. ..	201 eggs.	Weedy sort.
208. ..	221 eggs.	Good feather, but narrow behind.
209. ..	208 eggs.	Decent body, but rather flat face.
210. ..	227 eggs.	Good feather; poor body.
211. ..	236 eggs.	Too light.
212. ..	245 eggs.	Nice face, but rather small for stud purposes.
213. ..	235 eggs.	Barely up to size.
214. ..	142 eggs.	Moulted twice; very soft feather.
215. ..	260 eggs.	Fair Leghorn type; very close feather.
216. ..	218 eggs.	Moulted early.
217. ..	268 eggs.	Both nice type of hens.
218. ..	257 eggs.	
219. ..		
220. ..		
221. ..	205 eggs.	Poor type, and under size.
222. ..	248 eggs.	Good score, but too small to breed from.
223. ..	239 eggs.	Rather too fine.
224. ..	142 eggs.	Narrow throughout.
225. ..	273 eggs.	Hard feather.
226. ..	262 eggs.	Nice body, but narrow in front.
227. ..	254 eggs.	Good strong sort.
228. ..	189 eggs.	Weak face, barely up to type.
229. ..	118 eggs.	Very weak face.
230. ..	258 eggs.	Good face; hard feather; fair body.
231. ..	293 eggs.	Good hen all round; a valuable breeder
232. ..	282 eggs.	Nice head and feather, a trifle small.
233. ..	210 eggs.	Good type; soft feather.
234. ..	208 eggs.	Lacks type.
235. ..	145 eggs.	Inclined to flesh; high on the leg.
236. ..	194 eggs.	A medium sort throughout.

TABLE I.

Monthly Results 1919-20 Competition.

PERCENTAGES OF EGGS LAID OUTSIDE THE TRAP-NESTS.

	Light Breeds—Wet Mash.			Light Breeds—Dry Mash.			Heavy Breeds—Wet Mash.			Heavy Breeds—Dry Mash.			Weighted Average.		
	Eggs Laid.	Un-allotted.	Per cent. Un-allotted.	Eggs Laid.	Un-allotted.	Per cent. Un-allotted.	Eggs Laid.	Un-allotted.	Per cent. Un-allotted.	Eggs Laid.	Un-allotted.	Per cent. Un-allotted.	Total Eggs Laid.	Un-allotted.	Per cent. Un-allotted.
April .. .. .. (1–30, 30 days)	3,245	301	9·27	1,417	177	12·49	1,329	387	29·11	766	190	24·93	6,757	1,055	15·61
May .. .. .. (1–28, 28 days)	3,138	154	4·90	1,616	177	10·95	1,528	246	16·09	1,013	160	15·79	7,295	737	10·10
June .. .. .. (May 19–July 2, 35 days)	3,881	247	6·36	2,014	129	6·4	2,391	312	13·04	1,425	140	9·82	9,711	828	8·52
July .. .. .. (July 3–31, 29 days)	3,561	181	5·08	2,101	67	3·18	1,986	203	10·22	1,089	76	6·42	8,737	527	6·03
August .. .. (Aug. 1–Sept. 3, 34 days)	4,425	81	1·83	3,174	35	1·10	1,689	3	0·17	1,592	66	4·16	10,880	185	1·70
September .. .. (Sept. 4–Oct. 1, 28 days)	5,004	25	0·49	2,920	4	0·13	2,045	9	0·44	1,304	1	0·07	11,273	39	0·34
October .. .. (2–29, 28 days)	4,935	10	0·20	2,903	3	0·10	1,873	9	0·48	1,212	6	0·49	10,923	28	0·25
November .. .. (Oct. 30–Nov. 26, 28 days)	4,792	12	0·25	2,741	18	0·65	1,661	23	1·38	1,020	15	1·47	10,214	68	0·66
December .. .. (Nov. 27–Dec. 31, 35 days)	5,435	24	0·44	3,290	14	0·42	1,881	17	0·90	1,088	18	1·65	11,694	73	0·62
January .. .. (1–29, 29 days)	4,033	27	0·66	2,311	15	0·64	1,433	29	2·02	796	24	3·01	8,573	95	1·10
February .. .. (Jan. 30–Feb. 25, 27 days)	4,019	30	0·74	2,175	10	0·45	1,352	12	0·88	780	6	0·77	8,326	58	0·69
March .. .. .. (Feb. 26–March 31, 35 days)	4,010	11	0·27	2,214	4	0·18	1,401	4	0·28	875	5	0·57	8,500	24	0·28
Total	50,478	1,103	2·18	28,876	653	2·26	20,569	1,254	6·09	12,960	707	5·45	112,883	3,717	3·29

TABLE II.

Monthly Results, 1920-21 Competition.

PERCENTAGES OF EGGS LAID OUTSIDE THE TRAP-NESTS.

	Light Breeds—Wet Mash.			Light Breeds—Dry Mash.			Heavy Breeds—Wet Mash.			Heavy Breeds—Dry Mash.			Weighted Average.		
	Eggs Laid.	Un-allotted.	Per cent. Un-allotted.	Eggs Laid.	Un-allotted.	Per cent. Un-allotted.	Eggs Laid.	Un-allotted.	Per cent. Un-allotted.	Eggs Laid.	Un-allotted.	Per cent. Un-allotted.	Total Eggs Laid.	Un-allotted.	Per cent. Un-allotted.
April .. .. .. (1–28, 28 days)	2,080	56	2·69	814	23	2·83	980	18	1·84	515	8	1·55	4,389	105	2·39
May .. .. .. (Apr. 29–June 2, 35 days)	2,722	23	0·84	1,128	7	0·62	1,375	16	1·16	701	1	0·14	5,926	47	0·79
June .. .. .. (June 3–30, 28 days)	2,453	14	0·57	1,049	6	0·57	1,543	12	0·78	587	1	0·17	5,632	33	0·59
July .. .. .. (July 1–28, 28 days)	2,571	29	1·13	1,383	4	0·29	1,771	19	1·07	669	1	0·15	6,394	53	0·83
August .. .. (July 29–Sept. 1, 35 days)	3,850	15	0·39	1,841	3	0·16	2,424	4	0·17	901	2	0·22	9,016	24	0·27
September .. .. (Sept. 2–29, 28 days)	3,594	15	0·42	1,686	3	0·18	1,954	7	0·36	612	..	0·0	7,846	25	0·32
October .. .. (Sept. 30–Oct. 27, 28 days)	3,666	10	0·27	1,721	6	0·35	1,849	13	0·70	577	5	0·87	7,813	34	0·44
November .. .. (Oct. 28–Dec. 1, 35 days)	4,234	2	0·28	2,099	6	0·29	1,816	4	0·22	499	..	0·0	8,648	22	0·25
December .. .. (Dec. 2–Jan. 5, 35 days)	3,567	42	1·18	1,853	17	0·92	1,517	50	3·30	469	14	2·99	7,406	123	1·66
January .. .. (Jan. 6–Feb. 2, 28 days)	2,651	21	0·79	1,448	8	0·55	1,189	29	2·44	456	2	0·44	5,744	60	1·04
February .. .. (Feb. 3–Mar. 2, 28 days)	2,305	22	0·95	1,211	12	0·99	1,109	19	1·71	187	2	1·07	4,812	55	1·04
March .. .. .. (3–31, 29 days)	1,773	27	1·52	948	5	0·53	1,034	8	0·77	304	1	0·33	4,059	41	1·01
Total	35,466	286	0·81	17,181	100	0·58	18,561	199	1·07	6,477	37	0·57	77,685	622	0·80

TABLE III.

Monthly Results, 1921–22 Competition.

PERCENTAGES OF EGGS LAID OUTSIDE THE TRAP-NESTS.

	Light Breeds—Wet Mash.			Light Breeds—Dry Mash.			Heavy Breeds—Wet Mash.			Heavy Breeds—Dry Mash.			Weighted Average.		
	Eggs Laid.	Un-allotted.	Per cent. Un-allotted.	Eggs Laid.	Un-allotted.	Per cent. Un-allotted.	Eggs Laid.	Un-allotted.	Per cent. Un-allotted.	Eggs Laid.	Un-allotted	Per cent. Un-allotted.	Total Eggs Laid.	Un-allotted.	Per cent. Un-allotted.
April .. .. .. (April 1–May 4, 34 days)	2,007	40	1·99	766	26	3·39	2,045	100	4·89	741	15	2·02	5,559	181	3·25
May .. .. .. (May 5–June 1, 28 days)	1,897	8	0.42	846	2	0.24	1,927	28	1.45	630	..	0.0	5,300	38	0.72
June .. .. .. (2–29, 28 days)	1,511	8	0.53	612	4	0·65	2,066	9	0·43	600	..	0·0	4,789	21	0·44
July .. .. .. (June 30–July 31, 32 days)	1,903	17	0.89	1,004	8	0.80	2,469	12	0.49	708	3	0·42	6,084	40	0·66
August .. .. (1–31, 31 days)	2,375	10	0·42	1,150	6	0·52	2,354	4	0.17	623	..	0·0	6,502	20	0·31
September .. .. (1–28, 28 days)	2,291	..	0·0	1,156	1	0·09	2,103	5	0.24	557	..	0·0	6,107	6	0·10
October .. .. (Sept. 29–Nov. 2, 35 days)	2,871	3	0·10	1,432	..	0·0	2,495	5	0·2	617	2	0·32	7,415	10	0·13
November .. .. (3–30, 28 days)	2,254	2	0·09	1,049	2	0·19	1,736	4	0·23	431	1	0·23	5,470	9	0·16
December .. .. (Dec. 1–Jan. 4, 35 days)	2,600	15	0·58	1,283	3	0·23	2,096	7	0·33	551	..	0·0	6,530	25	0·38
January .. .. (Jan. 5–Feb. 1, 28 days)	1,593	4	0.25	793	6	0.76	1,428	5	0·35	378	1	0·26	4,192	16	0·38
February .. .. (Feb. 2–March 1, 28 days)	1,463	8	0·55	853	7	0·82	1,329	10	0·75	336	2	0·59	3,981	27	0.68
March .. .. .. (2–31, 30 days)	1,198	8	0·67	755	1	0·13	1,431	5	0·35	425	..	0·0	3,809	14	0.37
Total	23,963	123	0·51	11,699	66	0·56	23,479	194	0·83	6,597	24	0·36	65,738	407	0.62

FINAL RESULTS.

RECORD OF EGGS LAID DURING PERIOD OF COMPETITION, 1st APRIL, 1921, to 31st MARCH, 1922.

Section A.—Groups of Six Birds Trapnested.

Pen No.	Competitor.	Hen. 1.	2.	3.	4.	5.	6.	(x).	Total to 31st March, 1922.
	Class 1.—Light Breeds (White Leghorns), Wet Mash.								
44	C. C. Langley ..	228	226	234	223	241	240	2	1,394
32	A. Scott ..	165	220	250	203	251	200	9	1,298
49	J. P. Brown ..	207	239	159	207	235	219	4	1,270
37	G. Pocknall ..	200	186	(*d*) 154	233	233	247	5	1,258
48	E. A. Lawson ..	221	180	227	195	213	199	2	1,237
36	T. A. Pettigrove ..	193	182	218	215	206	197	6	1,217
45	Norman Meyers ..	195	211	208	177	213	202	2	1,208
34	J. G. Alston ..	223	198	226	73	247	214	11	1,192
42	Deepspring Poultry Farm ..	206	183	191	246	124	229	7	1,186
52	D. Gibson ..	240	191	182	214	162	157	8	1,154
38	Herbert Bros. ..	240	244	(*d*) 25	229	187	222	6	1,153
46	J. H. Chirnside ..	208	189	17	155	169	245	11	1,149
33	U.O.I. Poultry Farm	186	189	188	190	194	193	9	1,149
43	Harry Miller ..	216	187	220	182	(*d*) 43	254	1	1,103
51	Miss M. T. Kidd ..	165	(*d*) 111	170	214	232	204	2	1,098
47	Clee Hill Stud Poultry Farm ..	210	192	152	(*d*) 54	240	237	2	1,087
39	P. N. Tilley ..	221	206	154	111	155	208	24	1,079
31	F. Gaskell ..	181	210	214	199	248	7	1	1,060
35	A. McCall ..	224	170	136	147	186	185	3	1,051
40	R. Moore ..	140	197	133	95	171	174	4	914
41	G. B. Brown and Son	130	178	(*d*) —	159	57	178	4	706
	Class 2.—Light Breeds (White Leghorns), Dry Mash.								
62	Norman Meyers ..	231	255	255	282	266	259	4	1,552
59	A. Enticknap ..	248	269	227	287	239	260	11	1,541
63	G. McDonnell ..	223	174	232	240	236	221	1	1,327
56	Deepspring Poultry Farm ..	210	234	200	239	219	206	5	1,313
60	Herbert Bros. ..	256	233	254	212	117	182	8	1,262
54	Chas. Ridley ..	251	(*d*) 181	217	217	(*d*) 123	233	9	1,231
53	B. Brown ..	(*d*) 99	263	(*d*) 151	201	237	216	19	1,186
58	F. Gaskell ..	295	233	213	176	151	(*d*) 74	4	1,146
61	A. McCall ..	200	241	197	173	222	(*d*) 103	5	1,141
	Class 3.—Heavy Breeds (Black Orpingtons), Wet Mash.								
81	W. A. Shevill ..	238	225	192	251	286	275	8	1,475
73	Frank Harrison ..	201	260	269	211	260	228	..	1,429
75	D. W. Ilton ..	273	258	210	166	238	223	8	1,376
79	S. Andrew ..	236	243	112	250	265	249	3	1,358
80	J. Quinlan	199	296	238	226	275	(*d*) 86	5	1,325

NOTE.—Eggs laid outside nest denoted thus (x).
Death of birds marked thus (*d*).

FINAL RESULTS—*continued.*

SECTION A.—GROUPS OF SIX BIRDS TRAPNESTED—*continued.*

Pen No.	Competitor.	Hen. 1.	2.	3.	4.	5.	6.	(x).	Total to 31st March, 1922.
Class 3.—Heavy Breeds (Black Orpingtons), Wet Mash—*continued.*									
85	Wanchai Poultry Farm ..	167	198	207	243	260	228	9	1,312
70	C. B. Bertelsmeier	182	203	199	225	222	267	10	1,308
77	Herbert Bros. ..	190	257	182	235	105	299	7	1,275
74	C. E. Graham ..	197	191	111	279	166	225	32	1,201
65	Clee Hill Stud Poultry Farm ..	235	244	178	186	(*d*) 149	187	11	1,190
71	Louis Currie ..	226	234	233	55	205	229	7	1,189
66	R. R. Christie ..	160	247	231	(*d*) ..	228	219	5	1,090
78	L. W. Parker ..	46	239	157	205	183	220	12	1,062
86	Jas. A. Dunn ..	..	250	218	145	211	233	1	1,058
68	A. H Mould ..	186	177	208	..	168	143	2	884
88	Deepspring Poultry Farm ..	(*d*) 148	188	141	127	268	..	2	874
84	Mrs. N. Pearson ..	192	156	..	270	204	..	1	823
67	J. Wear.. ..	..	211	151	..	191	255	3	811
83	Marville Poultry Farm ..	112	..	238	..	(*d*) 206	230	1	787
76	J. C. Mickelburough	..	224	238	239	..	..	..	701
Class 4.—Heavy Breeds (Black Orpingtons), Dry Mash.									
92	Marville Poultry Farm ..	252	213	234	223	252	164	6	1,344
94	J. C. Mickelburough	252	..	200	279	215	250	..	1,196
89	R. R. Christie ..	213	176	220	154	204	218	7	1,192
91	Clee Hill Stud Poultry Farm ..	..	216	220	236	196	192	1	1,061
88	Jas. A. Dunn ..	227	240	258	218	..	..	..	943

NOTE.—Eggs laid outside nest denoted thus (x).
Death of birds marked thus (*d*).

Section B.—Individual Birds.

Pen No.	Competitor.	Breed.	Total to 31st March, 1922.	Pen No.	Competitor.	Breed.	Total to 31st March, 1922.
Class 1.—Leghorns, Wet Mash (All White Leghorns, except pens 169-170, Brown Leghorns).							
231	Herbert Bros. ..	White Leghorns	293	131	W. Cullen ..	White Leghorns	258
232	Herbert Bros. ..	,,	282	218	H. Groves ..	,,	257
149	F. Crafts ..	,,	281	227	G. McCutchan ..	,,	254
225	Geo. White ..	,,	273	130	A. O. Clifford ..	,,	252
217	H. Groves ..	,,	268	148	M. Whitley ..	,,	249
132	W. Cullen ..	,,	267	222	R. E. Exelby ..	,,	248
226	G. White ..	,,	262	173	C. D. Marshall	,,	247
202	H. Williams ..	,,	261	212	Chas. Ridley ..	,,	245
215	Woyna Poultry Farm	,,	260	147	M. Whitley ..	,,	244
				192	W. White ..	,,	241
144	F. Wight ..	,,	259	146	Woorayl Poultry Farm	,,	241
230	J. B. Nicoll ..	,,	258				
160	William Vercoe	,,	258	142	G. F. Walbran	,,	241

FINAL RESULTS—*continued.*

SECTION B.—INDIVIDUAL BIRDS—*continued.*

Pen No.	Competitor.	Breed.	Total to 31st March, 1922.	Pen No.	Competitor.	Breed.	Total to 31st March, 1922.
	CLASS 1.—LEGHORNS, WET MASH—*continued.*						
223	T. A. Pettigrove	White Leghorns	239	172	W. Plaw ..	White Leghorns	187
163	F. Gaskell ..	,,	239	184	H. C. Clark ..	,,	183
196	A. Enticknap ..	,,	238	176	W. C. E. St. Quintin	,,	183
150	F. Crafts ..	,,	238				
162	W. Godden ..	,,	237	201	H. Williams ..	,,	182
140	Robt. Mathieson	,,	237	145	Woorayl Poultry Farm	,,	182
129	A. O. Clifford ..	,,	237				
211	Chas. Ridley ..	,,	236	175	W. C. E. St. Quintin	,,	181
156	Fairy Mede Pens	,,	236				
213	G.G. Stud Farm	,,	235	181	R. Roche ..	,,	180
199	O. Godden ..	,,	235	157	Clee Hill Stud Poultry Farm	,,	178
152	H. B. James ..	,,	235				
159	Wm. Vercoe ..	,,	234	205	J. Ogilvie ..	,,	177
193	T. Backoeller ..	,,	233	204	Wanchai Poultry Farm ..	,,	177
194	T. Backoeller ..	,,	229				
210	P. N. Tilley ..	,,	227	198	L. Faulkner ..	,,	177
203	Wanchai Poultry Farm	,,	226	191	W. White ..	,,	173
				166	G. B. Brown and Son	,,	166
134	J. H. Duncan ..	,,	226				
195	A. Enticknap ..	,,	224	170	J. C. Mickelburough	,,	161
167	A. G. Stevens ..	,,	224				
139	Robt. Mathieson	,,	224	143	F. Wight ..	,,	161
161	W. Godden ..	,,	223	164	F. Gaskell ..	,,	159
136	A. Siede and Sons	,,	223	187	McCormack and Kinzel	,,	156
208	H. W. Smith ..	,,	221				
188	McCormack and Kinzell	,,	220	168	A. G. Stevens ..	,,	153
				133	J. H. Duncan ..	,,	153
216	Woyna Poultry Farm ..	,,	218	165	G. B. Brown and Son	,, (*d*)	151
155	Fairy Mede Pens	,,	218	169	J. C. Mickelburough	,,	149
158	Clee Hill Stud Poultry Farm	,,	216				
				183	H. C. Clark ..	,,	147
153	E. A. Lawson ..	,,	213	190	J. P. Brown ..	,,	146
233	Wm. G. Werry	,,	210	235	I. Maynard ..	,,	145
200	O. Godden ..	,,	210	197	L. Faulkner ..	,,	145
180	Jack Ryan ..	,,	209	224	T. A. Pettigrove	,,	142
137	Britaunia Poultry Farm	,,	209	214	G.G. Stud Farm	,,	142
				141	G. F. Walbran	,, (*d*)	133
234	Wm. G. Werry	,,	208	206	J. Ogilvie ..	,,	130
209	P. N. Tilley ..	,,	208	174	C. D. Marshall	,, (*d*)	130
171	W. Plaw ..	,,	208	178	H. and A. Woodman	,,	128
186	Norman Meyers	,,	207				
185	Norman Meyers	,,	207	177	H. and A. Woodman	,,	125
221	R. E. Exelby ..	,,	205				
189	J. P. Brown ..	,,	205	229	J. B. Nicoll ..	,,	118
207	H. W. Smith ..	,,	201	182	R. Roche ..	,,	98
154	E. A. Lawson ..	,,	195	138	Britannia P.F.	,,	96
236	I. Maynard ..	,,	194	151	H. B. James ..	,,	91
179	Jack Ryan ..	,,	190	135	A. Siede and Sons	,,	30
228	G. McCutchan ..	,,	189				

NOTE.—Deaths of birds marked thus (*d*).

FINAL RESULTS—*continued.*

SECTION B.—INDIVIDUAL BIRDS—*continued.*

Pen No.	Competitor.	Breed.	Total to 31st March, 1922.	Pen No.	Competitor.	Breed.	Total to 31st March, 1922.
Class 2.—Leghorns, Dry Mash (All White Leghorns, except Pens 103-104, Brown Leghorns).							
114	Norman Meyers	White Leghorns	290	88	I. Maynard ..	White Leghorns	248
113	Norman Meyers	,,	285	90	Britannia Poultry Farm	,,	247
108	G. McDonnell ..	,,	285	79	A. Siede and Sons	,,	245
91	J. H. Duncan ..	,,	279	92	J. H. Duncan ..	,,	243
122	J. Ogilvie ..	,,	276	94	F. Gaskell ..	,,	240
84	H. W. Smith ..	,,	274	115	G. F. Walbran	,,	238
110	Deep Spring Poultry Farm	,,	273	105	J. B. Nicoll ..	,,	236
83	H. W. Smith ..	,,	272	100	T. A. Pettigrove	,,	236
119	J. H. Morgan ..	,,	271	199	T. A. Pettigrove	,,	233
93	F. Gaskell ..	,,	270	116	G. F. Walbran	,,	230
81	Jack Ryan ..	,,	269	85	E. A. Lawson ..	,,	227
111	Herbert Bros. ..	,,	268	121	J. Ogilvie ..	,,	220
106	J. B. Nicoll ..	,,	265	109	Deepspring Poultry Farm	,,	216
112	Herbert Bros. ..	,,	264	123	W. White ..	,,	214
125	P. N. Tilley ..	,,	263	102	R. C. Brett ..	,,	206
95	T. Backcoller ..	,,	263	103	J. C. Mickleburough	,,	184
118	A. Enticknap ..	,,	263	80	A. Siede and Sons	,,	178
101	R. C. Brett ..	,,	261	87	I. Maynard ..	,,	176
89	Britannia Poultry Farm	,,	259	97	Chas. Ridley ..	,,	171
117	A. Enticknap ..	,,	257	86	E. A. Lawson ..	,,	155
96	T. Backcoller ..	,,	255	104	J. C. Mickelburough	,,	146
82	Jack Ryan ..	,,	254	126	P. N. Tilley ..	,,	139
120	J. H. Morgan ..	,,	253	98	Chas. Ridley ..	,,	107
107	G. McDonnell ..	,,	252				
124	W. White ..	,,	251				
Class 4.—Orpingtons, Any Colour, Wet Mash (Black Orpingtons, except Pens 67-68, Buff Orpingtons).							
57	A. G. Stevens ..	Black Orpingtons	284	76	Marville Poultry Farm	Black Orpingtons	237
58	A. G. Stevens ..	,,	280	22	Chanticleer Poultry Yards	,,	235
35	Maypole Poultry Farm	,,	269	23	E. A. Lawson ..	,,	233
32	S. Andrew ..	,,	267	59	J. B. Nicoll ..	,,	232
37	Woorayl Poultry Farm	,,	264	65	Clee Hill Stud P.F.	,,	224
42	F. Telfer ..	,,	260	44	R. C. Brett ..	,,	223
39	W. Cullen ..	,,	260	62	J. P. Brown ..	,,	223
26	C. C. Dunn ..	,,	259	41	F. Telfer ..	,,	222
53	Robt. Mathieson	,,	256	61	J. P. Brown ..	,,	221
71	C. E. Graham ..	,,	252	24	E. A. Lawson ..	,,	221
73	A. Siede and Sons	,,	251	31	S. Andrew ..	,,	220

NOTE.—Death of birds marked thus (*d*).

FINAL RESULTS—*continued.*

SECTION B.—INDIVIDUAL BIRDS—*continued.*

CLASS 4.—ORPINGTONS, ANY COLOUR, WET MASH—*continued.*

Pen No.	Competitor.	Breed.	Total to 31st March, 1922.
50	R. R. Christie ..	Black Orpingtons	220
75	Marville Poultry Farm	,,	213
64	G. B. Brown and Son	,,	213
70	F. G. Fereday ..	,,	212
45	M. Marten ..	,,	210
46	M. Marten ..	,,	208
38	Woorayl Poultry Farm	,,	208
68	H. C. Clark ..	,,	207
29	John Christie ..	,,	205
27	F. W. Gough ..	,,	203
28	F. W. Gough ..	,,	201
21	Chanticleer Poultry Yards	,,	200
74	A. Siede and Sons	,,	195
55	L. W. Parker ..	,,	193
52	J. C. Mickelburough	,,	193
20	Merval Poultry Farm	,,	190
30	John Christie ..	,,	184
60	J. B. Nicoll ..	,,	183
34	M. Whitley ..	Black Orpingtons	179
69	F. G. Fereday ..	,,	178
47	Wanchai Poultry Farm	,,	176
48	Wanchai Poultry Farm	,,	174
43	R. C. Brett ..	,,	174
33	M. Whitley ..	,,	171
51	J. C. Mickelburough	,,	171
25	C. C. Dunn ..	,,	161
77	Deepspring Poultry Farm	,,	160
49	R. R. Christie	,,	156
56	L. W. Parker ..	,,	155
36	Maypole Poultry Farm	,,	154
67	H. C. Clark ..	,,	151
78	Deepspring Poultry Farm	,,	124
72	C. E. Graham ..	,, (*d*)	103
19	Merval Poultry Farm	,,	79

Class 5.—All Heavy Breeds other than Orpingtons, Wet Mash.

16	Jas. Ryan ..	R.I.R.	300
15	Jas. Ryan ..	,,	247
6	Kreira Poultry Farm	R.I.W.	240
14	McCormack and Kinzel	R.I.R.	235
11	L. Faulkner ..	,,	234
2	M. Whitley ..	,,	222
13	McCormack and Kinzel	,,	211
3	Chas. Ridley ..	Langshan	208
5	Kreira Poultry Farm	R.I.W.	208
7	A. Minter ..	Faverolles	203
17	Clee Hill Stud Poultry Farm	Langshan	196
8	A. Minter ..	Faverolles	188
10	Champion Poultry Farm	R.I.R.	176
12	L. Faulkner ..	,,	166
4	Chas. Ridley ..	Langshan	165
1	M. Whitley ..	R.I.R.	155
9	Champion Poultry Farm	,,	138
18	Clee Hill Stud Poultry Farm	Langshan	58

NOTE.—Death of birds marked thus (*d*).

WEIGHT OF EGGS.

Pen No.	Name.	Number of Eggs.	Weight of Eggs.	Average Weight of Egg.	Average Weight per Dozen.
			oz.	oz.	oz.
Class 1.—Light Breeds, Wet Mash.					
31	F. Gaskell	1,060	2,135.5	2.014	24.170
32	A. Scott	1,298	2,606.5	2.008	24.097
33	U.O.I. Poultry Farm	1,149	2,286	1.989	23.870
34	J. G. Alston	1,192	2,326	1.951	23.416
35	A. McCall	1,051	2,086.5	1.985	23.823
36	T. A. Pettigrove	1,217	2,406	1.977	23.724
37	G. Pocknall	1,258	2,484	1.974	23.694
38	Herbert Bros.	1,153	2,385	2.068	24.822
39	P. N. Tilley	1,079	2,158.5	2.000	24.005
40	R. Moore	914	1,797.5	1.967	23.599
41	G. B. Brown and Son	706	1,413	2.001	24.017
42	Deep Spring Poultry Farm ..	1,186	2,343.5	1.976	23.711
43	Harry Miller	1,103	2,172.5	1.970	23.635
44	C. C. Langley	1,394	2,756	1.977	23.724
45	Norman Meyers	1,208	2,357	1.951	23.414
46	J. H. Chirnside	1,149	2,264	1.970	23.645
47	Clee Hill Stud Poultry Farm ..	1,087	2,153.5	1.981	23.774
48	E. A. Lawson	1,237	2,510.5	2.029	24.354
49	J. P. Brown	1,270	2,604	2.050	24.605
50	(Vacant)				
51	Miss M. T. Kidd	1,098	2,198.5	2.002	24.027
52	D. Gibson	1,154	2,272	1.969	23.626
Class 2.—Light Breeds, Dry Mash.					
53	B. Brown	1,186	2,334.5	1.968	23.620
54	Chas. Ridley	1,231	2,431	1.975	23.698
55	(Vacant)				
56	Deep Spring Poultry Farm ..	1,313	2,521	1.920	23.040
57	(Vacant)				
58	F. Gaskell	1,146	2,313	2.018	24.220
59	A. Enticknap	1,541	3,054.5	1.982	23.786
60	Herbert Bros.	1,262	2,610	2.068	24.818
61	A. McCall	1,141	2,316	2.030	24.357
62	Norman Meyers	1,552	3,148.5	2.029	24.344
63	G. McDonnell	1,327	2,816.5	2.122	25.469
64	(Vacant)				
Class 3.—Heavy Breeds, Wet Mash.					
65	Clee Hill Stud Poultry Farm ..	1,190	2,444	2.054	24.645
66	R. R. Christie	1,090	2,156	1.978	23.736
67	J. Wear (2 birds disqualified)				
68	Arthur H. Mould (1 bird disqualified)				
69	(Vacant)				
70	C. B. Bertelsmeier	1,308	2,538.5	1.941	23.289
71	Louis Currie	1,189	2,336.5	1.965	23.581
72	(Vacant) ..				
73	Frank Harrison	1,429	2,909·5	2.036	24.432
74	C. E. Graham	1,201	2,501	2.082	24.989
75	D. W. Ilton	1,376	2,771·5	2.014	24.170

WEIGHT OF EGGS—*continued.*

Pen No.	Name.	Number of Eggs.	Weight of Eggs.	Average Weight of Egg.	Average Weight per Dozen.
			oz.	oz.	oz.
	CLASS 3.—HEAVY BREEDS, WET MASH—*continued.*				
76	J. C. Mickelburough (3 birds disqualified)				
77	Herbert Bros.	1,275	2,504·5	1·964	23·572
78	L. W. Parker	1,062	2,160.5	2·034	24·412
79	S. Andrew	1,358	2,706.5	1·993	23·916
80	J. Quinlan	1,325	2,629	1·984	23·810
81	W. A. Shevill	1,475	2,923.5	1·982	23·784
82	Deep Spring Poultry Farm (1 bird disqualified)				
83	Marville Poultry Farm (2 birds disqualified)				
84	Mrs. N. Pearson (2 birds disqualified)				
85	Wanchai Poultry Farm	1,312	2,611	1·990	23·881
86	Jas. A. Dunn (1 bird disqualified)				
	Class 4.—Heavy Breeds, Dry Mash.				
87	(Vacant)				
88	Jas. A. Dunn (2 birds disqualified)				
89	R. R. Christie	1,192	2,368	1·986	23·839
91	Clee Hill Stud Poultry Farm (1 bird disqualified)				
92	Marville Poultry Farm	1,344	2,670·5	1·987	23·844
93	(Vacant)				
94	J. C. Mickelburough (1 bird disqualified)				
95	W. A Shevill (6 birds disqualified)				

PRIZE LIST.

For the greatest total number of eggs laid by a pen in each Class of Sections "A" and "B":—

Section A.—Groups of Six Birds.

Class 1.—Light Breeds.—Wet Mash.

1st Prize, Champion Certificate .. C. C. Langley, cnr. Poath and Dalny roads, Murrumbeena (1,394 eggs).

2nd Prize, Government Certificate .. A. Scott, 17 Tongue-street, Yarraville (1,298 eggs).

3rd Prize, Government Certificate .. J. P. Brown, 531 Doveton-street, North Ballarat (1,270 eggs).

Class 2.—Light Breeds.—Dry Mash.

1st Prize, Champion Certificate .. Norman Meyers, "Stapley," Queen's-avenue, Glen Huntly (1,552 eggs).
2nd Prize, Government Certificate .. A. Enticknap, 216 High-street, Prahran (1,541 eggs).
3rd Prize, Government Certificate .. G. McDonnell, 150 Camberwell-road, Auburn (1,327 eggs).

Class 3.—Heavy Breeds.—Wet Mash.

1st Prize, Champion Certificate .. W. A. Shevill, Reserve-road, Beaumaris (1,475 eggs).
2nd Prize, Government Certificate .. Frank Harrison, Eallbundry-avenue, Frankston (1,429 eggs).
3rd Prize, Government Certificate .. D. W. Ilton, Narracan Poultry Farm, Herald-street, Cheltenham (1,376 eggs).

Class 4.—Heavy Breeds.—Dry Mash.

1st Prize, Champion Certificate .. Marville Poultry Farm (A. H. Dumaresq), South-road, Moorabbin (1,344 eggs).
2nd Prize, Government Certificate .. J. G. Mickelburough (All Varieties Poultry Farm), Herald-street, Cheltenham (1,196 eggs)
3rd Prize, Government Certificate .. R. R. Christie, Stelmo Poultry Farm, Bentleigh (1,192 eggs).

Section B,—Individual Birds.

Class 1.—Leghorns.—Wet Mash.

1st Prize, Champion Certificate .. Herbert Bros., Diamond Creek (293 eggs).
2nd Prize, Government Certificate .. Herbert Bros., Diamond Creek (282 eggs).
3rd Prize, Government Certificate .. F. Crafts, 74 Cassell's-road, North Brunswick (281 eggs).

Class 2.—Leghorns.—Dry Mash.

1st Prize, Champion Certificate .. Norman Meyers, "Stapley," Queen's-avenue, Glen Huntly (290 eggs).
2nd Prize, Government Certificate .. Norman Meyers, "Stapley," Queen's-avenue, Glen Huntly (285 eggs).
ditto (equal second) .. .. G. McDonnell, 150 Camberwell-road, Auburn (285 eggs).

Class 3.

No Competition.

Class 4.—Orpingtons, any colour.—Wet Mash.

1st Prize, Champion Certificate .. A. G. Stevens, Mooroopna (284 eggs).
2nd Prize, Government Certificate .. A. G. Stevens, Mooroopna (280 eggs).
3rd Prize, Government Certificate .. Maypole Poultry Farm (E. P. Brown), Pearcedale-road P.O., *via* Somerville (269 eggs).

Class 5.—All Heavy Breeds other than Orpingtons.—Wet Mash.

1st Prize, Champion Certificate .. Jas. Ryan, 33 Davis-street, Coburg (300 eggs).
2nd Prize, Government Certificate .. Jas. Ryan, 33 Davis-street, Coburg (247 eggs).
3rd Prize, Government Certificate .. Kreira Poultry Farm (C. Burden), 25 Goe-street, Caulfield (240 eggs).

For the greatest total number of eggs laid by individual birds in each Class of Section "A."

Class 1.—Light Breeds—Wet Mash.

1st Prize, Champion Certificate .. Harry Miller, 64 Childers-street, East Kew (254 eggs).
2nd Prize, Government Certificate .. A. Scott, 17 Tongue-street, Yarraville (251 eggs)
3rd Prize, Government Certificate .. A. Scott, 17 Tongue-street, Yarraville (250 eggs).

Class 2.—Light Breeds.—Dry Mash.

1st Prize, Champion Certificate .. F. Gaskell, 17 Kelvin-grove, Armadale (295 eggs).
2nd Prize, Government Certificate .. A. Enticknap, 216 High-street, Prahran (287 eggs).
3rd Prize, Government Certificate .. Norman Meyers, "Stapley," Queen's-avenue, Glen Huntly (282 eggs).

Class 3.—Heavy Breeds.—Wet Mash.

1st Prize, Champion Certificate .. Herbert Bros., Diamond Creek (299 eggs).
2nd Prize, Government Certificate .. J. Quinlan, 13 Westbourne-road, Kensington (296 eggs).
3rd Prize, Government Certificate .. W. A. Shevill, Reserve-road, Beaumaris (286 eggs).

Class 4.—Heavy Breeds.—Dry Mash.

1st Prize, Champion Certificate .. J. C. Mickelburough, Herald-street, Cheltenham (279 eggs).
2nd Prize, Government Certificate .. Jas. A. Dunn, Meeniyan (258 eggs).
3rd Prize, Government Certificate .. Marville Poultry Farm (A. H. Dumaresq), South-road, Murrumbeena (2 birds each) (252 eggs).
ditto (equal third) .. .. J. C. Mickelburough, Herald-street, Cheltenham (252 eggs).

For the pen which shows the greatest average weight per dozen eggs laid:—

Section A.—Groups of Six Birds.

1st Prize, Government Certificate .. G. McDonnell, 150 Camberwell-road, Auburn, 25.469 ozs. per dozen.

For the pen the eggs of which realized the highest market value throughout the competition:—

Section A.—Groups of Six Birds.

1st Prize, Government Certificate .. A. Enticknap, 216 High-street, Prahran (pen 59), 1,541 eggs; value, £11 13s. 1d.

WEEDS AND THEIR ERADICATION.

(Continued from page 294.)

By H. W. Davey, F.E.S., Orchard Supervision Branch, Department of Agriculture.

Stinkwort, *Inula graveolens,* Compositæ.

This most troublesome weed is proclaimed under the Victorian Thistle Act for the whole of the State.

It is a native of the Mediterranean regions, and was introduced into South Australia over 50 years ago for use, so it has been stated, in the smoking of bacon and hams.

Fig. 40.—Young Plants of Stinkwort. (Pulled towards end of December.)

It is often confused with St. John's wort, although there is no resemblance between the two plants; further, the latter flowers in the spring months, whereas stinkwort does not come into bloom until late in the autumn.

Stinkwort is an erect, strong-growing, sticky and much-branched annual plant, with a most pronounced smell. It bears numerous small pale-yellow flowers, which later produce an enormous number of wind-borne seeds.

Small specimens of the plant usually make their appearance during October, and continue growing until late in the season, coming into flower towards the end of March.

In spite of the serious menace of this weed, there are still some people who speak in its favour, claiming that it carries stock over drought periods. As a matter of fact, animals will not eat this plant

Fig. 41.—Stinkwort not yet in bloom, but buds forming.
(Pulled 15th March.)

Fig. 42.—Stinkwort in flower. (Pulled 10th April.)

freely when it is of any size, and, if forced by hunger to do so, serious results to their health often follow, while at the very least it badly taints the milk of dairy cows.

Land-owners should do their level best to keep stinkwort in check, but, unfortunately, small patches are often neglected. This is especially the case when it first puts in an appearance in a new locality, whereas that should be the time to make special efforts to eradicate it, as, once it becomes thoroughly established in a district, its total eradication becomes impossible.

No opportunity must be missed for destroying this pestilent weed. The plants should be hand-pulled or hoed out wherever they may be found growing. This work should always be carried out before the plants commence to form flower-buds, as they have such abundant vitality that, if pulled when in the flowering stage and thrown on the ground, there is usually a percentage of flowers sufficiently forward to enable them to mature viable seeds. Therefore, any plants showing signs of flower buds should, after being pulled, be immediately burnt.

The seeds are blown so very freely by the wind that hand-pulling plants containing ripe seeds may tend to the further dispersal of the weed.

Hand-pulling stinkwort is often the cause of a most distressing skin trouble, and it would be well for those engaging in the work to protect themselves from actual contact with the plants, especially during very hot weather.

The weed appears to be fairly easily dealt with by fallowing, but this, to be successful, requires special attention during January and February.

Stinkwort delights in cultivated land, although it will thrive exceedingly well on hill country. It, however, does not appear to like hard impacted soils, being always more vigorous on those of a loose character.

Sheep will eat young stinkwort, and if infested country were heavily stocked while the plants were small (Fig. 40), much good would result. To compel sheep to eat the well-grown plants, besides being a risk, as stinkwort in flower appears to be injurious, gives no certainty that the weed will be eradicated; plants that have been eaten down by sheep often produce flowers so short in the stalk that they appear to be on the stems of the plant; many of these flowers will escape, and later on develop seeds.

Owing to the viscid stickiness of stinkwort, it arrests the seeds of many other plants, and especially those of thistles, so that if the former plants are hoed out and burnt, many seeds of other weeds are destroyed in the one operation. If, on the other hand, the destruction of this plant is neglected, many arrested seeds of weeds become established in addition to the stinkwort.

Apart from the wind, the seeds of this plant are easily spread by means of stock, rabbits, hares, and water.

Fortunately the seed does not appear to retain its viability for many years, though if plants have been allowed to mature seed, seedlings will continue to make their appearance for three or four years afterwards.

It would be a great help towards the suppression of stinkwort if public attention were directed at the beginning of each year to the bad character

of this weed, and, by means of this publicity, starting a really vigorous campaign for its suppression at that time, and before it had reached the flowering stage (Fig. 41). Land-owners would thus become familiar with its appearance, and those already acquainted with it would be reminded of the necessity of destroying it. In addition, the man who was indifferent to his own or his district's welfare would be compelled by the force of public opinion to make some attempt to clear his land of the pest.

Stinkwort grows vigorously during the hot months, making a strong much-branched plant often 4 feet in height. Fig. 42 represents a small specimen of this plant in bloom.

(To be continued.)

SOLDIER-SETTLERS' FARM COMPETITION, LEONGATHA.

Report of the Judge, J. S. McFadzean, Senior Dairy Supervisor.

The inspection of soldier-settler farms entered for the Leongatha Agricultural Society's prize was made on 31st January to 2nd February. There were fifteen competitors, all of whom had been working their properties for dairying for less than two years, consequently there were many sections of the work which were not far advanced. A scale of points had been fixed by the society, on which the competition was judged; and considering the embryo stage in which most of the farms were, the scoring was very satisfactory.

Forty points, or one-tenth of the whole, were set down for systematic crop rotation, but the time in occupation did not permit of such work having been yet carried out. Several of the competitors had plans laid for this section, but in most instances only a second crop had been taken by them from any of the cultivation.

Forty points were also obtainable for character and condition of crops for dairying purposes. Onions were one of the main crops grown, but these could not be given consideration as part of dairy-farm work, as they do not come in for stock feed; and potatoes, carrots, turnips, or mangels, would each serve the same purpose in crop rotation. Oats, barley, peas, millets, sorghums, soudan grass, rape, pumpkins, as well as the other crops mentioned, were all met with here; some of the farmers growing six varieties or more, while others confined their work to two. Although there may be time wasted in cutting up the sowings with too great a variety, there is good sense in trying out small sowings of crops which are not generally grown, but which are likely to do well in the district. Oats and tares, maize, mangels, and pumpkins should, however, form the basis of the fodder cropping in this locality every year, as these all do well there if the land is properly cultivated.

Several maize crops were seen which had been put in broadcast, instead of being in drills at least 3 feet apart to allow of intercultivation. Two or three workings of the soil between the rows while the plants are growing is as much a necessity with maize as with mangels,

potatoes, cabbages, or any other summer growing crop; and the yield per acre of maize can easily be doubled thereby. The land will also be kept free of weeds, and in good order for the following crop if that system is followed, while the quantity of seed required will also be much less when sown in drills.

On several of the farms attention had already been given to the care of grass land by top-dressings of lime, superphosphate, or bonedust, and both pastures and stock were looking well in consequence. Others were doing nothing in this way, while in some instances the land was literally overrun with rabbits, and the cattle were depending largely on such hand feeding with maize or other fodder as the owners were able to give them. On one farm, 120 rabbits had been poisoned on the morning the inspection was made. Most of the settlers here are pushing on with the work of netting their boundary fencing, and when that is done each will be able to clear off what rabbits are within the enclosed area, but on an unprotected block the cows have little chance for grass against the rabbits. One instance of the value of netting was mentioned where 1,500 rabbits had been poisoned on a block of 120 acres in one night prior to it being netted, but when the netting was completed 100 was the most obtained with one poisoning. Grass is the cheapest crop that the dairy farmer can grow, but 100 rabbits will overstock any ordinary farm.

The allotment of points for live stock was placed at 50 for dairy cattle, 15 for pigs, 15 for horses, 3 for poultry, and 7 for other stock. There are four Jerseys, three Ayrshires, and five cross-bred bulls in use in the herds. The seven pure-bred bulls were of a good class, and there were some pure-bred cows and heifers of both these dairy breeds, the majority of the rest of the cows being of a Jersey-Ayrshire cross. A few of the herds were of a very mixed lot of stock, and their returns were comparatively low; while some farmers had a very even lot of cattle, showing that much judgment had been exercised in the purchase, and these were being mated with pure bulls of the same breed. It is a pity that those using cross-bred bulls had not been better advised. In one or two instances pure-bred bulls were being hired, and it would be much better if more of this were done, so as to avoid breeding unsuitable stock by using the cross-bred males.

On the whole, the horses were a good serviceable lot, and very few surplus stock of this class were being kept. Pigs, also, were of fair quality, there being several pure Berkshires and Yorkshires, besides several first crosses of these with Tamworths. Poultry, too, were kept on most farms, and usually of a fair class. The seven points allowed for "other live stock" occasioned some inquiry by the settlers as to what was expected in that way, only two having solved the problem through keeping a few killing sheep. With machinery and other equipment the majority of the farms were fairly well furnished, some having a very complete outfit. Also, in regard to suitability and arrangement of farm buildings, most of the competitors had done well, and the housing of the various stock was being kept in a reasonably clean condition in the majority of instances.

In water supply there was much variety in creeks, wells, dams, and springs; but with the last-named supply some of the owners had allowed the head water to be puddled up by the stock, instead of keeping this clear and clean by fencing it in.

In fodder reserve some had only a small haystack. A few had a crop of mangels, beet, or carrots well advanced, and in two instances pea straw was being cared for, this being a good fodder which too frequently is wasted by being used for stock bedding. There were several good maize crops; but, so far, no preparation was being made to conserve any surplus for winter feeding as silage.

A fair subdivision of the farms had been effected in most cases, but there were a few places on which the dairy herd had unrestricted access to the whole of the grazing land, and the best was thus not being got out of it. Vegetables and a few fruit trees were being grown on all the farms, but the attention given to this section varied much. A good vegetable garden is a big factor in the provisioning of the farm household, and any surplus can well be used up by poultry, pigs, or cows; the meat supply of the house thus also being assisted by the garden.

As the farms were nearly all new places, natural shelter in trees and scrub was all that was available, in most instances, for the stock, but trees of various kinds had already been planted by some of the competitors. While the dwellings were in most cases fully adequate for present requirements, there was wide variation in what was termed "surroundings." With the newer houses there had been no time for trees or hedges to make much growth, but the planting of these had been given care. A few were fortunate in having obtained homestead blocks where trees were well established, and this added to the comfort of those in occupation.

The wide variation in the quality of the dairy stock showed up very prominently in the herd returns, the better grade stock having much the advantage. As several of the competitors had not been long enough established to enable a comparison to be made on a full year's work, this was done on the returns for seven months, from July to January inclusive, the points being allotted on the basis of butter-fat per cow.

In general management there was also much variation. Use of subdivision, clean stock quarters, rabbit extermination, care of premises generally—including cream storage, water supply, and machinery shed—all come under this heading, and all lost points in some part of this section. Cream should be always kept in a cool place and protected from flies. A water supply from a dirty spring may cause ropy milk. A dirty skim-milk vat or neglected poultry house or pigsty will not improve the atmosphere surrounding the dairy premises, while the fly pest is always largely increased under such insanitary conditions. There is no occasion for stench centres such as these to exist on any farm. In only a few instances were the farm yards untidy, and in some cases neatness was an outstanding feature of the whole place, much handy management being shown in this direction.

On the whole, this competition fully justified the work given to it by the Leongatha society. The farms to be judged were arranged in groups, and the owners notified as to when to expect the event to take place, stewards being appointed for each group, so that no time would be lost in getting through.

A full list of the points allotted in each case is supplied, and from this each competitor will be able to see how his work compared with the others, and where more headway can best be made for future contests.

POINTS GAINED IN COMPETITION.

	Best Method of Crop Rotation.	Character, Condition and Value of Crops for Dairying Purposes.	Condition of Grass Land.	Suitability of Live Stock—Quality and Condition.					Machinery and Equipment.	Suitability and Arrangement of Farm Buildings.	Water Supply.	Fodder Reserves.	Subdivision—Fencing, Gates, &c.	Trees for Shelter.	Orchard and Vegetable Garden.	Home—General Care of Buildings with Surroundings.	Factory Returns—Herd Average.	General Management.	Total.
				Cattle.	Pigs.	Horses.	Other Live Stock.	Poultry.											
Possible Points ..	40	40	20	50	15	15	7	3	20	25	10	20	10	5	10	20	50	40	400
1. Vagg, E. J. ..	20	16	13	40	13	13	..	2	12	20	9	8	7	3	7	18	39	22	262
2. Amos, V. ..	20	28	11	37	..	14	..	2	18	20	7	5	7	2	6	18	40	24	259
3. Calder, D. C. ..	20	24	14	30	9	13	7	2	8	22	7	13	7	2	5	18	19	26	356
4. Millett, C. H. W.	20	20	14	30	12	13	..	2	18	20	7	10	6	1	8	18	30	26	255
5. Edwards, G. H.	20	30	16	30	13	14	..	..	16	12	8	10	8	2	7	18	21	20	245
6. Blamford, C. ..	26	34	14	17	7	12	..	1	16	15	7	12	7	2	6	18	24	24	242
7. Hodson, A. G.	20	28	12	17	7	12	..	2	17	17	7	10	7	2	9	19	27	20	233
8. Potts, A. C. ..	20	30	15	22	7	13	..	..	15	16	8	10	8	2	6	18	16	24	230
9. Peacock, W. R.	20	12	11	25	5	14	..	2	12	21	8	8	7	2	4	18	34	24	227
10. Bright, G. H. ..	20	26	10	20	12	12	..	1	15	15	6	10	7	4	8	18	21	20	225
11. Beard, H. ..	20	28	6	22	9	13	2	2	16	21	9	11	5	2	8	18	19	16	224
12. Bright, H. J. ..	20	16	12	25	12	12	..	..	14	15	6	8	7	4	5	18	27	20	223
13. Rodwell, R. J. ..	20	30	6	20	7	7	..	..	14	16	7	10	5	2	7	18	15	20	205
14. Mathies, H. ..	20	24	15	25	12	13	..	2	12	8	7	10	6	2	6	18	16	12	204
15. Maddern, P. ..	20	20	6	15	7	13	..	2	16	17	7	4	5	1	5	14	14	20	186

STANDARD HERD TEST.

REPORT FOR QUARTER ENDED 31st MARCH, 1922.

The cows which have qualified for certificates number 172, out of a total of 192 which completed the term. Individual returns are as follow:—

Owner.	No. Completed Test.	No. Certificated.	Breed.	Name of Cow.	Herd Book No.	Date of Calving.	Days in Test.	Milk last Day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Estimated Butter.
								lbs.	lbs.		lbs.	lbs.	lbs.
Mrs. M. I. Alston Estate, Cobram	2	2	Jersey ..	Welcome of Tarnpirr	7069	31.3.21	273	19	6,091	6·75	410·93	200	468½
				Pidgeon of Kameruka	6035	11.4.21	273	20	7,028	5·83	409·46	250	466½
C. Bamford, Benalla	4	4	Ayrshire ..	Spot of Medburn Grove	Not yet allotted	28.3.21	273	14½	5,778	4·58	264·58	175	301¾
				Babe of Medburn Grove	„	11.4.21	273	17	9,118	3·99	363·34	250	414¼
				Lupin of Medburn Grove	4859	19.4.21	273	18½	7,047	4·00	282·39	200	322
				Mermaid of Shannon Grove	Not yet allotted	4.5.21	273	14	6,143	4·55	279·29	250	318½
A. E. Batson, Buckley, near Geelong	1	1	Jersey ..	Lady Grey 6th of St. Albans	6367	11.6.21	271	4	4,634	5·56	257·80	250	294
Mrs. I. Beard, Outtrim	3	3	Jersey ..	Banksia of Springhurst	5387	2.4.21	273	22	6,421	6·13	393·38	250	448½
				Camellia of Springhurst	6200	9.4.21	273	22	6,893	6·09	414·84	250	473
				Columbine of Springhurst	5392	11.6.21	273	13½	4,929	5·66	279·18	250	318¼
Mrs. Agnes Black, Noorat	4	3	Jersey ..	Noorat Pearl	Not yet allotted	4.4.21	273	8½	5,547	5·02	278·49	175	317½
				Madge	3575	30.4.21	273	12½	6,632	4·79	317·66	250	362¼
				Noorat Beauty	6408	28.5.21	270	4	7,150	4·76	340·03	250	387½
W. J. Colman, Kerang	3	3	Jersey ..	Queen of Bellaire	9261	8.1.21	273	17	6,859	5·26	360·57	200	411
				Pearl 5th of Melrose	5557	22.2.21	273	16	6,087	5·41	329·43	250	375½
				Captive	2965	1.5.21	273	25	8,021	4·45	357·28	250	407¼

CERTIFICATED COWS—*continued.*

Owner.	No. Completed Test.	No. Certificated.	Breed.	Name of Cow.	Herd Book No.	Date of Calving.	Days in Test.	Milk last Day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Estimated Butter.
								lbs.	lbs.		lbs.	lbs.	lbs.
Department of Agriculture, Werribee	19	15	Red Poll ..	Toronto	326B	25.1.21	273	14	4,230	4·93	209·76	200	239½
				Sovereign	320B	16.3.21	273	18½	5,940	4·44	263·44	175	300½
				Corona	382C	17.3.21	273	18	5,463	4·34	237·21	175	270½
				Pico	250A	18.3.21	273	10½	6,844	4·07	278·75	175	317¾
				La Marseillaise	394C	21.3.21	273	9	5,747	4·37	251·28	175	286½
				Sumontina	321B	22.3.21	273	11½	6,285	4·19	263·34	175	300½
				Banksia	376C	23.3.21	273	13	5,308	4·54	241·02	175	274¾
				War Wings	259A	24.3.21	273	18	6,828	4·23	288·76	175	329½
				Tundra	255A	1.4.21	273	9	4,394	4·61	203·90	175	232½
				Nyasa	249A	3.4.21	217*	11	3,834	4·90	187·85	175	214¼
				Cutty Sark	383C	8.4.21	273	24½	8,473	4·40	373·12	175	425½
				Flandrina	386C	20.4.21	273	17	5,911	4·14	244·77	200	279
				Brabantia	378C	27.4.21	273	18½	6,429	4·59	294·78	175	336
				Laodicea	306B	29.4.21	273	15	5,433	4·51	244·85	200	279
				Morocco	308B	2.5.21	273	34½	11,920	3·50	417·43	250	476
Department of Agriculture, Werribee	3	3	Friesian ..	Dominion Coringa	380	19.2.21	273	38½	13,923	3·58	498·90	250	568¾
				Victoria Dutch Maid	Not yet allotted	24.4.21	273	28	6,054	4·01	242·49	175	276½
				Dominion Woodnymph	,,	14.6.21	273	36½	9,834	2·81	284·52	250	324½
Department of Agriculture, Burnley	2	2	Friesian ..	Dominion Hyacinth	374	16.2.21	273	..	11,287	3·97	447·82	250	510½
				Victoria Corunna	Not yet allotted	8.6.21	273	22½	7,635	3·55	271·08	175	309
	1	1	Jersey ..	Collingwood's Beauty	6749	29.1.21	273	20½	4,310	5·97	257·31	250	293¼
C. Deverell, Wangaratta	4	4	Jersey ..	Coleus of Springhurst	7325	31.3.21	273	14½	5,774	6·97	402·26	200	458½
				Brighton Princess of Springhurst ..	5391	10.4.21	273	12½	9,208	5·52	508·73	250	580
				Dolichos of Springhurst	6203	20.5.21	273	13½	5,895	5·02	296·07	250	337½
				Myrtle of Springhurst	7331	21.5.21	272‡	14	5,801	6·01	348·84	200	397¾
C. Falkenberg, Elliminyt	2	2	Jersey ..	Trixie of Colac	4914	18.4.21	251†	14½	5.859	5·63	330·06	250	376¼
				Pansy of Colac	4911	21.5.21	273	14½	7,714	4·67	360·24	250	410¾

* Withdrawn through udder ailment. † Withdrawn before completion. ‡ Sold before completion.

CERTIFICATED COWS—*continued.*

Owner.	No. Completed Test.	No. Certificated.	Breed.	Name of Cow.	Herd Book No.	Date of Calving.	Days in Test.	Milk last Day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Estimated Butter.
								lbs.	lbs.		lbs.	lbs.	lbs.
R. Faragher, Koroit	2	2	Jersey	Belle A.	6315	21.3.21	273	13½	5,890	5·18	304·98	175	347½
				Clover of Saranac	9313	28.3.21	273	13½	5,867	5·58	327·22	175	373
Finn Brothers, Port Fairy	3	3	Jersey	Science of Springhurst	6207	3.5.21	273	11	4,812	5·95	286·22	250	326¼
				Trixie of Tarnpirr	5173	5.6.21	273	14	7,771	6·17	479·62	250	546½
				Seaweed of Springhurst	6208	10.6.21	273	13½	7,074	5·28	374·61	250	427
Flack and Sewell, Berwick	4	4	Friesian	Bainfield No. 40	Not yet allotted	6.4.21	273	28½	8,548	3·56	304·44	200	347
				Miss Muller 3rd of Berry	242	11.4.21	273	19	7,478	3·72	278·17	175	317
				Miss Muller 2nd of Berry	224	15.4.21	273	33½	11,439	3.63	415·03	250	473¼
				Leonora Canary	Not yet allotted	8.5.21	273	14	8,076	4·07	329·05	200	375¼
Mrs. M. and W. A. Francis, Kilcunda	1	1	Ayrshire	Duchess of Hillcrest	5139	17.2.21	273	17	4,759	4·83	230·08	175	262½
G. Gange, Mininera	2	2	Ayrshire	Alvie of Roseleigh	7296	11.5.21	273	21	7,297	4·53	330·71	175	377
				Gardenia of Seafield	5141	26.5.21	235	4	6,632	4.35	288·51	250	329
N. Gange, Mininera	1	1	Ayrshire	Petunia of Glencairn	4417	7.4.21	273	22½	7,521	4·23	317·93	250	362½
Geelong Harbor Trust, Marshalltown, near Geelong	9	9	Ayrshire	Floss of Sparrovale	3892	28.12.20	273	16	7,137	4·07	290·64	200	331½
				Rose of Sparrovale	3906	31.12.20	273	25½	9,508	4·53	430·90	250	491½
				Primrose of Sparrovale	6359	16.1.21	273	17 3/4	6,421	4·70	302·08	200	344½
				Belle of Sparrovale	3883	17.1.21	240	4	6,070	4·38	265·68	250	303
				Duchess of Sparrovale	3889	29.1.21	273	6	6,930	4·29	297·17	250	338¾
				Gladys of Sparrovale	6355	30.1.21	273	16½	5,883	4·73	278·13	175	317
				Myrtle of Sparrovale	3905	29.3.21	273	6	5,764	4·69	270·54	200	308½
				Mayflower of Sparrovale	6358	24.5.21	273	14½	5,731	4.50	257·76	175	294
				Gipsy Girl of Sparrovale	3894	29.5.21	273	12½	6,607	4·90	323·87	250	369½

CERTIFICATED COWS—*continued.*

Owner.	No. Completed Test.	No. Certificated.	Breed.	Name of Cow.	Herd Book No.	Date of Calving.	Days in Test.	Milk last Day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Estimated Butter.
								lbs.	lbs.		lbs.	lbs.	lbs.
W. C. Greaves, Monomeith	1	1	Ayrshire ..	Fidget 2nd of Warrook	Not yet allotted	6.5.21	273	19	6,689	4·21	281·76	175	321¼
D. F. Griffiths, Inverleigh	1	1	Ayrshire ..	Anitra of Gowrie Park	5175	24.6.21	273	19	8,747	4.38	383·00	250	436½
R. Hall, Sale ..	1	1	Ayrshire ..	Venus of Dunachton	3956	13.5.21	273	13½	7,120	3·62	257·51	200	293¼
T. Harvey, Boisdale	4	4	Jersey ..	Kirsty 8th of Jerseyholm	6846	1.4.21	273	13½	7,239	5·46	395·02	200	450½
				Kirsty 6th of Jerseyholm	4980	2.4.21	273	14	6,580	6·14	413·71	250	471½
				Kirsty 7th of Jerseyholm	5918	3.6.21	273	13	6,416	6·40	410·63	250	468½
				Lady Marge of Jerseyholm	4981	16.6.21	273	20	7,263	5·93	430·42	250	490¾
W. Henderson, Grasmere	1	1	Ayrshire ..	Gertie of Warrook	3986	3.6.21	273	6	6,241	4·76	297·30	250	339
Dr. and Mrs. E. J. Henderson, Wangaratta	1	1	Jersey ..	Lantana of Springhurst	6204	18.5.21	273	7½	5,569	5·96	331·94	250	378½
J. Hutchinson, Somerville	1	1	Jersey ..	Valda's Belle of Somerville	9420	8.6.21	273	17½	5,404	5·74	310·40	175	354
A. Jackson, Glen Forbes	2	2	Jersey ..	Canary of Lysterfield	Not yet allotted	22.4.21	273	14½	5,180	5·29	274·06	250	312½
				Creamy of Lysterfield	6978	13.6.21	273	21	7,290	4·54	331·23	250	377½
S. A. Johnson, Woodend	3	3	Ayrshire ..	Jessamine of La Motte	5256	2.4.21	273	23½	8,120	4·12	334·35	200	381¼
				Brown Bess of La Motte	5254	6.4.21	273	20	7,529	4·57	343·83	200	392
				Molline of La Motte	5259	4.5.21	273	11	6.940	4·94	343·96	250	392

CERTIFICATED COWS—*continued.*

Owner.	No. Completed Test.	No. Certificated.	Breed.	Name of Cow.	Herd Book No.	Date of Calving.	Days in Test.	Milk last Day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Estimated Butter.
								lbs.	lbs.		lbs.	lbs.	lbs.
A. W. Jones, Whittington, near Geelong	6	6	Jersey ..	Fuchsia 13th of Melrose	6300	30.3.21	273	18	7,672	5·72	439·13	250	500¼
				Mermaid 4th of Melrose	6307	10.4.21	273	6½	7,563	6·05	457·91	250	542½
				Lady Grey 1st of St. Albans	4186	2.5.21	273	10½	6,147	6·26	384·72	250	438¾
				Lilac of Tarnpirr	6028	11.5.21	273	15	7,750	5·47	423·82	250	483¼
				Jubilee 15th	5056	21.5.21	273	18½	10,235	5·17	528·72	250	602¼
				Beautie of Tarnpirr	6023	18.6.21	273	6½	7,647	6·36	486·27	250	554½
A. W. Jones, Whittington, near Geelong	4	3	Friesian ..	Nora's Pearl	363	9.5.21	273	12	9,730	3·64	354·35	250	404
				Bolobek Rose	319	11.5.21	273	15	10,132	3·73	378·05	250	431
				Brookland's Maid	449	28.5.21	273	11	8,897	3·94	350·84	250	400
Kerr Brothers, Bacchus March	3	3	Shorthorn ..	Morven Cressida	Not yet allotted	1.4.21	273	21	7,338	3·97	291·57	250	332½
				Morven Ruby	„	10.5.21	273	18½	6,802	3·83	250·65	250	285¾
				Morven Duchess 14th	„	7.6.21	273	12½	8,110	3·58	290·00	250	330½
J. A. Lang, Warrion	9	4	Ayrshire ..	Peggy 2nd of Riccarton	6513	14.4.21	273	9½	5,254	4·14	217·51	175	248
				Tabitha of Gleneira	3213	15.4.21	251	4	6,402	4·28	274·13	250	312½
				Docy of Riccarton	6497	19.5.21	271	4	6,074	3·83	232·68	200	265½
				Emily 2nd of Riccarton	6499	19.5.21	273	7½	5,124	4·22	216·11	175	246½
Agricultural High School, Leongatha	2	2	Jersey ..	Alice	Not yet allotted	11.4.21	273	10½	6,286	6·11	383·95	250	437¾
				Surprise	„	12.4.21	273	16½	6,029	5·87	353·92	250	403½
Leslie and Gerrand, Sale	2	2	Ayrshire ..	Flossie 2nd	6522	7.4.21	273	16	7,873	3·90	306·32	250	349¼
				Hilda 2nd of Raith	6525	14.4.21	264*	12	7,514	3.79	285·09	200	325

* Withdrawn before completion.

CERTIFICATED COWS—*continued.*

Owner.	No. Completed Test.	No. Certificated.	Breed.	Name of Cow.	Herd Book No.	Date of Calving.	Days in Test.	Milk last Day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Estimated Butter.
								lbs.	lbs.		lbs.	lbs.	lbs.
R. Lidgett, Myrniong	4	3	Shorthorn ..	Ada	Not yet allotted	2.5.21	273	12	7,089	3·83	271·65	250	309⅞
				Pentland's Bloom 2nd	,,	28.5.21	263	4	5,978	4.61	275·53	250	314
				Beauty	,,	7.6.21	253	4	6,419	4·15	266·12	250	303¼
C. G. Lyon and R. R. Kerr, Heidelberg	7	7	Jersey ..	Dido 3rd of Banyule	7118	16.3.21	273	15½	5,796	5·03	291·78	175	332¾
				Silvermine 14th of Banyule	5220	2.4.21	273	27½	8,661	4·34	375·69	250	428¼
				Statuette 3rd of Banyule	Not yet allotted	7.4.21	273	16	5,701	5·38	306·92	175	349¾
				Dainty Maid of Holmwood	7116	14.4.21	273	16½	6,603	5·59	346·79	250	395¼
				Chorus Girl of Banyule	7113	25.4.21	273	20½	6,759	5·35	361·28	175	411¾
				Hawthorn 5th of Banyule	5208	5.5.21	273	10½	5,806	5·03	291·99	250	333
				Hawthorn 7th of Banyule	6068	15.6.21	273	14½	7,996	5·43	434·29	250	495
R. H. Maher, Tongala	1	1	Jersey ...	Peeress of Wyuna	6752	23.4.21	185*	18	4,542	6·07	275·51	250	314
T. Mesley, Dalyston	2	2	Jersey ..	Pibroch	5256	28.5.21	273	25	8,988	5·22	469·07	250	534⅜
				Charmian	5239	30.5.21	273	24	9,537	4·78	455·72	250	519½
D. C. Miller, Agnes	1	1	Jersey ..	Lotina's Twylish of Roseneath	6144	16.6.21	273	15½	5,759	5·05	290·87	250	331½
Mrs. L. Orchard, Grahamsvale	2	Nil	Jersey ..	.. ..	..	..	..	..	..	..	..	..	..
T. H. Payne, Kilmore	1	Nil	Red Poll ..	.. ..	..	..	..	..	..	..	..	..	..
E. Payne, Wangaratta	1	1	Ayrshire ..	Olive of Rosedale	6695	8.5.21	273	15	6,768	3·81	257·69	175	293¾

* Sold.

CERTIFICATED COWS—*continued.*

Owner.	No. Completed Test.	No. Certificated.	Breed.	Name of Cow.	Herd Book No.	Date of Calving.	Days in Test.	Milk last Day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Estimated Butter.
								lbs.	lbs.		lbs.	lbs.	lbs.
H. Perdriau, Werribee	1	1	Ayrshire ..	Marcella of Inverleigh	Not yet allotted	14.5.21	272	4	5,026	4·11	206·33	175	235¼
R. Ralston, Moglonemby, near Euroa	3	3	Ayrshire ..	Dairymaid of Ben Kell	3048	13.5.21	273	27	9,403	4·43	416·13	250	474½
				Pearl of Ben Kell	3052	24.5.21	273	10	7,975	4·08	325·56	250	371
				Poppy of Ben Kell	4584	30.5.21	273	15	6,148	4·65	286·09	250	326
J. D. Read, Springhurst	16	16	Jersey ..	Nightshade of Springhurst	3707	2.4.21	273	9½	9,087	5·00	454·51	250	518¼
				Empress of Springhurst	7328	2.4.21	273	16	7,166	5·28	378·36	200	431½
				Begum of Springhurst	5388	6.4.21	273	4½	5,778	5·71	330·11	250	376¼
				Crocus of Springhurst	5398	9.4.21	273	11	8,225	5·28	434·55	250	495½
				Freezia of Springhurst	4382	13.4.21	273	19	8,578	5·47	469·62	250	535⅝
				Nemophila of Springhurst	7332	14.4.21	273	11½	5,362	5·76	309·06	200	352¼
				Jonquil of Springhurst	5398	7.4.21	273	17	6,949	5·99	416·25	250	474½
				Cornflower of Springhurst	7326	19.4.21	273	13½	7,432	5·18	384·90	200	438¾
				Belladonna of Springhurst	5389	20.4.21	273	10	8,148	4·90	399·08	250	455
				Dauphine of Springhurst	6202	29.4.21	273	12½	5,528	6·60	365·12	250	416¼
				Picotee of Springhurst	7333	2.5.21	271	4	6,488	5·08	329·32	200	375½
				Trefoil of Springhurst	4395	14.5.21	273	15	8,062	5·66	456·48	250	520⅝
				Virginia of Springhurst	7336	9.6.21	273	12½	6,310	6·23	393·41	200	448⅛
				Clover of Springhurst	6201	15.6.21	273	7½	6,605	5·54	366·14	250	417⅞
				Lucerne of Springhurst	5399	19.6.21	273	9	6.767	5·15	348·99	250	397¾
				Eidelweiss of Springhurst	7327	19.6.21	273	12½	6,773	5·82	394·50	200	449¾
Miss Bruce Reid, Bundoora	1	1	Jersey ..	Jubilee Willoh	Not yet allotted	28.3.21	273	6	4,072	4·92	200·37	200	228½
C. J. Reid, Devenish	1	1	Jersey ..	Fuchsia 12th of Melrose	6299	3.3.21	273	18	8,046	4·93	396·64	250	452¼
J. H. Rogers, Yarraville	3	3	Ayrshire ..	Future of Warrook	2244	1.4.21	273	15	7,679	4·16	319·78	250	364⅓
				Pretty Polly of Glengowrie	2505	19.5.21	273	9	5,615	4·60	258·49	250	404⅝
				Ladybird of Mapleton	4481	31.5.21	273	11	6,996	4·32	302·46	250	344¼

CERTIFICATED COWS—*continued.*

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								lbs.	lbs.		lbs.	lbs.	lbs.
G. Rowe, Kardella	1	1	Jersey ..	Jessie of Welbourne	9687	23.6.21	273	19½	5,880	4·66	274·27	175	312½
F. Sadler, Camperdown	1	1	Shorthorn ..	Moss Rose 8th	Not yet allotted	14.6.21	273	7½	4,848	4·51	218·51	175	249
Sadler Brothers, Noorat	7	6	Ayrshire ..	Leura of Burnbrae	5842	25.4.21	273	21½	7,018	4·64	325·57	175	371½
				Clarice of Burnbrae	6839	6.5.21	273	9½	4,999	4·15	207·48	200	230½
				Lady Burnbrae	4612	2.5.21	272*	8	8,211	4·08	335·21	250	382½
				Lady Louie of View Point	4614	23.5.21	273	19½	9,460	3·79	358·84	250	409
				Nicety of Yalart	6850	27.5.21	273	10½	7,566	4.29	324·30	250	369½
				Lesbia of Yalart	3180	6.6.21	273	14½	8,412	4·15	348·86	250	397½
Agricultural High School, Sale	2	2	Ayrshire ..	Madeira of Flinders	1740	14.4.21	273	15½	6,471	3·91	253·05	250	288½
				Young Madeira of La Trobe	4814	8.5.21	272*	13	6,586	3·93	259·11	250	295½
Mrs. E. Sims, Toolern Vale	1	1	Jersey ..	My Hope of Kameruka	6032	3.6.21	273	14	6,732	5·83	392·48	250	447½
O. J. Syme, Macedon	5	5	Friesian ..	Bolobek Anabel	317	31.3.21	273	24	9,397	4·04	379·55	250	432½
				Bolobek Bluebell	336	6.4.21	273	27½	8,284	3·31	273·83	175	312½
				Bolobek Diana..	342	10.4.21	273	17½	6,515	3·55	231·01	175	263½
				Bolobek Ida	334	18.4.21	273	20½	6,774	3·35	226·76	175	258½
				Bolobek Jean	320	23.5.21	273	16	11,621	3·61	419·23	250	478
J. H. Thorburn, Woodend North	2	2	Ayrshire ..	Oatlands Tip	6017	16.4.21	273	11	5,491	4·57	251·12	250	286½
				Possum of La Motte	6018	12.6.21	266	4	6,235	4·42	275·38	250	314

* Withdrawn before completion.

CERTIFICATED COWS—*continued.*

Owner.	No. Completed Test.	No. Certificated.	Breed.	Name of Cow.	Herd Book No.	Date of Calving.	Days in Test.	Milk last Day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Estimated Butter.
								lbs.	lbs.		lbs.	lbs.	lbs.
J. T. Tweddle, Sunbury	2	2	Friesian ..	Netherland Jessie Inka	Not yet allotted	7.6.21	273	23½	11,584	3·58	415·7	250	473¾
				Joans de Kol No. 2	„	21.6.21	273	23	8,113	2·81	228·16	175	260
G. Vallance, Bacchus Marsh	3	2	Ayrshire ..	Ettie of Banyule	5778	2.4.21	273	25	7,410	4·49	332·41	250	379
				Blanche of Ben Kell	3047	18.6.21	273	17	7,971	3·63	289·59	250	330¼
A. L. Walter, Little River	1	1	Jersey ..	Flower 14th of Melrose	Not yet allotted	24.4.21	255*	5	5,436	6·35	345·33	175	393¾
Agricultural High School, Warrnambool	4	1	Ayrshire ..	Scottish Lass of Glenbrae	5917	29.3.21	273	12	6,540	4·51	295·06	250	336¼
W. Woodmason, Murrumbeena	8	8	Jersey	Laura 10th of Melrose	Not yet allotted	7.4.21	273	18½	6,262	6·25	391·43	200	446¼
				Graceful Duchess 10th of Melrose ..	3646	10.4.21	273	15½	5,416	6·23	337·67	250	385
				Lady Elector 2nd of Melrose	5548	12.4.21	273	13½	5,989	6·02	360·80	250	411¼
				Handsome Girl 9th of Melrose	9882	15.4.21	273	15	5,094	6·41	326·36	175	372
				Jenny Lind 15th of Melrose	9884	30.4.21	273	15	5,697	5·52	314·28	175	358¼
				Daisy 12th of Melrose	9876	6.5.21	273	15½	5,556	5·49	305·11	175	348
				Daisy 7th of Melrose	5532	4.6.21	273	13	6,417	5·31	341·01	250	388¾
				Flower 6th of Melrose	3641	14.6.21	273	22½	8,122	5·17	420·08	250	479

* Withdrawn before completion.

STABLE AND CHAFF HOUSE.

Plans and Specifications.

On several occasions during the past few years judges of farm competitions have in their reports directed attention to outbuildings which made for efficiency. At times when printing the reports in this *Journal,* plans of some of these buildings were reproduced.

In the report on the Donald Crop and Fallow Competitions published last month, an illustration of a convenient type of stable was given. By the courtesy of Mr. W. R. Pope, we are now able to print specifications for the building of such a stable, and the plans shown have been prepared from drawings supplied by Mr. Pope.

DIMENSIONS, ETC., OF STABLE.

Floor—36 ft. x 59 ft.

Height—18 ft. 3 in. at centre.

Walls—9 feet high, and to consist of corrugated iron 7 feet, and battens 2 feet (battens half-an-inch apart to allow for ventilation).

Sparrow netting in No. 2 space to run full length of stable, and to be fastened by 3-in. x 1-in. hardwood.

DIMENSIONS OF CHAFF HOUSE (ATTACHED TO STABLE).

Floor—36 ft. x 15 ft. Timber, 6-in. x $\frac{7}{8}$-in.; joists, 3 in. x 2 in., and centres 22 in. Sleepers, 4 in. x 2 in., and centres

Height—15 feet.

Passage way—4 feet in width; to be left at one end and on both sides of stables.

MATERIAL FOR COMBINED BUILDING.

Blocks to be 36 inches apart and not less than 18 inches in the ground. Galvanized iron to be placed on top of all blocks.

Plates to be 4-in. x 2-in. hardwood, halved at all joints and angles, and checked $\frac{1}{2}$ in. to receive studs except to plates of main stable roof, which is to be 4 in. x 2 in. on edge, and over loose box 6 in. x 2 in., let 2 inches into top of 5-in. x 5-in. stall posts, and bolted with $\frac{1}{2}$-in. bolts.

Outside ground plate of chaff house to be 5 in. x 2 in., the wall iron to rest on the extra inch. (This will make house mouse-proof, and also prevent chaff from falling out.)

Studs of Chaff House to be 4-in. x 2-in. hardwood; corner studs to be 4 in. x 4 in., to be spaced not more than 32 inches and well nailed to plates. Walls to be 14 ft. 10 in. from block to top of plate.

Studs of Stable to be 4 in. x 2 in., not more than 32-in. centres; corners, 4 in. x 4 in.

Walls of skilllion to be 9 feet from block to top plate.

Rafters of skillion and chaff house to be 4-in. x 2-in. hardwood, with 32-in. centres.

Rafters of main roof of stable to be 3 in. x 2 in., and 32-in. centres.

Braces to be 3-in. x 1-in. hardwood let flush into studs and plates.

All corner posts to be 6 in. x 4 in.

All purlins to be 3 in. x 1½ in.

Stall posts to be 5 in. x 5 in. hardwood, dowelled into blocks with ⅝-in. iron pins, and scarfed to receive 4-in. x 2-in. top plate and 4-in. x 2-in. pitching piece to carry skillion rafters, and checked to receive stall rails spaced 5 feet in the clear.

Head posts to be 4-in. x 2-in. hardwood, spaced and to take stall rails and checked into 4-in. x 2-in. bottom plate and nailed to rafters.

Stall rails to be 7 ft. 6 in. over all from head posts to stall posts. Top rail 3 in. x 3 in., other two rails 3 in. x 2 in. Top rail to be 5 ft. 2 in. from block in front and 4 ft. 6 in. at back. Chin rail to be bolted to middle stall rail so that it may carry manger. Bottom rail to be 14 inches lower, and to go under manger. Separate each stall with 6-in. x 1-in. hardwood.

All stall rails to be checked into stall posts and head posts.

Chin rails to be 4 in. x 4 in., and bolted to middle stall rail and nailed to head posts to form frame for manger. Top of manger to be 3 ft. 3 in. from block level.

Wall battens and purlins to be 3-in. x 1½-in. hardwood—three to each length of iron, well nailed to rafters and studs.

In ridges and valleys, hardwood 6 in. x 1 in. to be used.

Sleepers of chaff house to be of 4-in. x 2-in. hardwool, 3-ft. centres, laid on blocks on edge (not edge level), with bottom plate to take floor joists.

Floor joists in chaff house and passage along one end and two sides of stable to be 3 in. x 2 in., 1-ft. 9-in. centres.

Floor of chaff house 6-in. x ⅞-in. T. and G. white pine.

Floor of stable passages to consist of 6-in. x 1-in. hardwood.

Floor of stable and loose box to be 4-in. x 2-in. hardwood, with top edge of each adzed to form a gutter 1 inch deep, so that horses' feet may easily grip. Floor to be laid on sleepers 5 in. x 3 in.

Loose box to be lined all round to a height of 7 feet with 6-in. x 1-in. hardwood, and end stall to be lined in same way.

Tie beams, 4 in. x 2 in., to be 7 feet apart in chaff house and 10 feet apart in stable. Brace each beam to ridge board with one 3-in. x 1-in. hardwood.

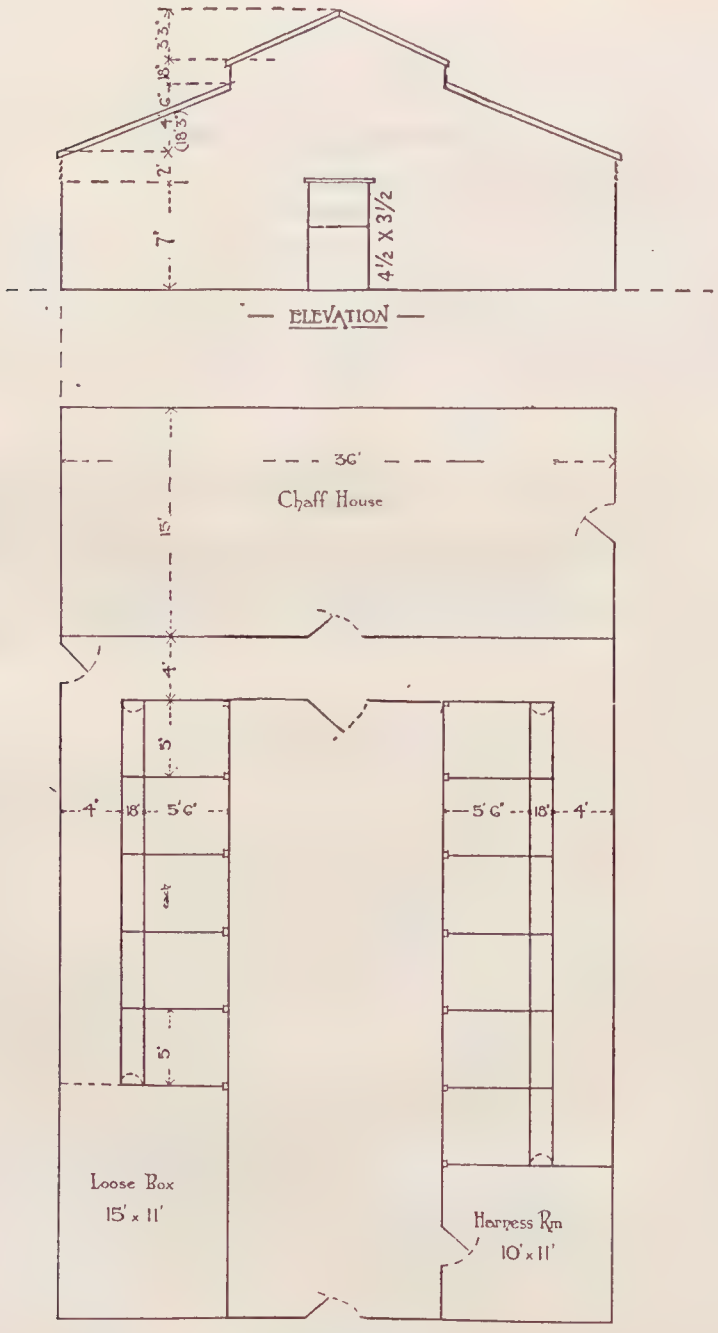
Roof of combined building to consist of 26-gauge Orb galvanized iron, 1½-in. side lap. Skillion roof to project inside stall posts about 5 inches.

Walls of chaff house to be covered with 26-gauge Orb galvanized iron. Skillion walls of stable to be covered to a height of 7 feet, 26-gauge Orb galvanized iron. Remainder of wall to consist of 3-in. x 1½-in. battens half-an-inch apart. Both skillion and main roof to consist of galvanized iron, like walls. Between skillion roof and top plate of main roof in a space of 18 inches ⅝-in. mesh wire netting to be nailed to 4-in. x 2-in. plate on top, and the 3-in. x 1-in. battens on stall posts just above the skillion roof.

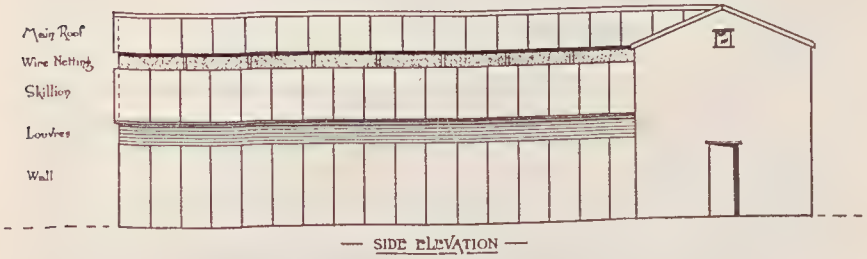
Iron in both walls and roofs to be nailed with spring-headed nails.

Valleys to be covered with 26-gauge galvanized plain iron and riveted and soldered at joints.

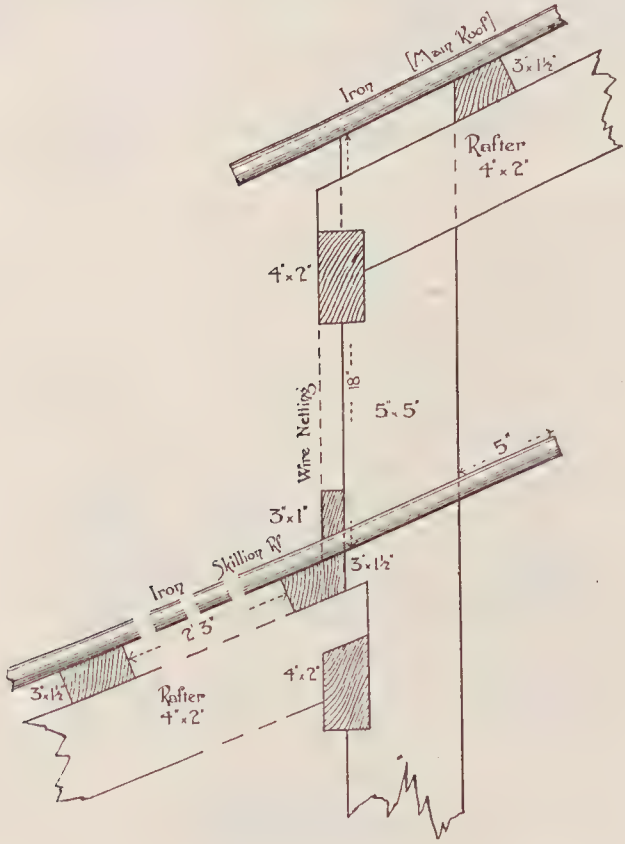
16-in. galvanized ridging to be used.



In plan above the space allotted to the loose box is 15ft. x 11ft. Mr. Pope, owever, suggests that 10ft. x 11ft. would be ample. If this suggestion be ollowed an additional stall could be provided.



— SIDE ELEVATION —



Spouting to be 4½-in. O.G. on skillion, eaves, and around chaff house. (No spout on main stable roof.) All spouting to be put on before roof iron, and to be affixed with straps of galvanized iron.

Facia, 7-in. beaded oregon. Barge and cap out of 6-in. x ⅞-in. softwood.

Mangers to be made out of 36-in. x 26-gauge plain iron, and to be 18 inches wide and 14½ inches deep, and 3 ft. 2 in. from top to block. A manger of similar material to be placed in loose box from side to side.

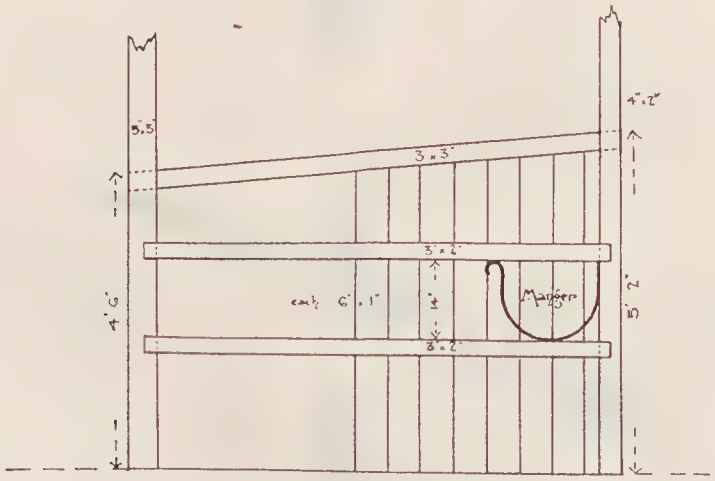
Windows—Fix one-half 8-in. x 10-in. sash in each gable end of chaff house.

Doors—Three double doors and four ledge doors. Loose box and main stable doors and end door of chaff house to be double doors 8 ft. x 4 ft. x ⅞ in. Each half door to be hung with one pair of Scotch tees, screws, and bolts. Each half to be fitted with Brenten's pad bolts. Doors of chaff house and side door of stable to be 7 ft. x 3 ft. x ⅞-in.; single hung with 18-in. tees and screws, and with necessary fastenings.

All doors to open inside.

Paint all outside wood and outside of doors and also spouting with three coats of paint.

Blocks to be provided by person for whom building is being constructed, and all material required to be carted by him to place of building.



DETAILS OF STALL

Scale 3ft = 1in.

ORCHARD NOTES.

E. E. Pescott, F.L.S., Pomologist.

The Orchard.

PLANTING.

The time has now arrived for the general planting of deciduous fruit trees. The soil should have previously been well ploughed and subsoiled, and, as far as possible, drained. To insure satisfactory results, it is essential that the orchard be subsoiled. Where expense is a consideration, drainage may be left for subsequent years, but once the orchard has been planted, it will be impossible to subsoil.

When planting out, the distance between the trees will be determined by the kinds to be planted. For ordinary deciduous fruiting trees it is the custom in this State to plant them 20 feet apart in the rows, the rows also being 20 feet apart. Results have proved this to be a satisfactory practice. Almond trees may be planted 15 or 16 feet apart each way, while walnuts and citrus, owing to their spreading habit, often require a distance of 30 feet.

Deep planting is not advocated, the general practice being that the depth of planting in the nursery should be followed. If holes be dug, they should be shallow, the bottom being merely loosened to allow a comfortable friable bed for the tree roots. A good practice is to dig the whole strip along which the trees are to be planted, merely removing sufficient soil afterwards when planting. Another satisfactory custom is to plough furrows 20 feet apart, and to plant the trees in the furrows, filling in the soil over the roots and trampling well down.

Before planting, the roots of the young trees should be well trimmed, shaped to an even form, and cleanly cut. As the result of their removal from the nursery beds, the roots are generally more or less damaged, and numbers of the fibrous roots, becoming dry, shrivel and die. These all require a clean trimming. Then it is often desirable to remove some of the roots so as to balance the root system. The trimming of the roots gives the young tree a clean root system, and it is enabled to establish itself with young, vigorous roots.

After planting, the top should be well cut back, so as to leave three or four arms, with three or four buds on each. Where it is not possible to have this number of arms or limbs it is frequently advisable to cut back to one stem, allowing the buds to break out strongly and frame the tree after planting. In some countries, the custom of not cutting back the trees the first year is favoured. Local experience has not resulted in favour of this practice, as it is found to be inadvisable to unduly strain the young tree by leaving a heavy top to be supported by the weak-growing root system.

A number of good commercial fruits have been found to be either wholly or partially self-sterile, requiring other varieties near them to enable them to set their fruit. For this purpose it is necessary that the bloom periods should be somewhat coincident.

SPRAYING.

The time has now arrived when it is necessary to spray for the following pests—scale insects, woolly aphis, and the bryobia mite. The use

of red oil has been advocated for these pests, and, as well, crude petroleum, kerosene and other oil emulsions have proved satisfactory.

The lime-sulphur spray is also one of the most effective of sprays for winter use. It is lasting, searching, and being a fungicide as well as an insecticide, is much favoured by growers as a dual spray.

GENERAL WORK.

All ploughing should now be completed; if not, it should be finished before spraying and pruning operations are proceeded with.

Any autumn manuring or liming should also be now carried out. This, too, should be finished before spraying or pruning. Before spraying with oils or with lime sulphur wash, all rough bark on apple and pear trees should be scraped off. This will mean the certain destruction of any codlin moth larvæ hiding underneath.

REMINDERS FOR JULY.

SHEEP.—Class all sheep, whether crossbreds or merinoes. Market any aged or inferior woolled sheep that may be fat before prices recede in the spring. Discard all undersized, narrow-framed sorts, any with short yellow fleeces, very coarse, common woolled crossbreds, any with very fine, mushy, light fleeces, ewes with deformed udders, single teats, deformed mouths, ewes six years old and over. When classing merino and comeback weaners look out for those thin and wasty on withers between the hips, and below; they are unprofitable shearing sheep. Draw teeth of aged ewes altogether if feed slipping through. Use a neat ear-mark for lambmarking, not the "slash," "crop," and other unsightly marks. Consider well before selling early-born, good-fleeced ewe lambs this coming season. Select best rams for future use, and dispose of any too old, or in any way undesirable. Remember wide, thick sheep are best thrivers, but they must carry superior bulky fleeces as well.

CATTLE.—Cows, if not housed, should be rugged. Rugs should be removed and aired in the daytime when the shade temperature reaches 60 degrees. Give a ration of hay or straw, whole or chaffed, to counteract the purging effects of the young grass. Cows about to calve, if over fat, should be put into a paddock in which the feed is not too abundant. Newly-calved cows should be fed liberally to stimulate milk flow. Cows may now be served for autumn calving. Calves should be provided with warm, dry shed.

VINEYARD.—Proceed with pruning, burning off, and ploughing. Though Anthracnose (black spot) did little or no damage last season, the disease must not be ignored; given suitable weather conditions and absence of preventive treatment, its re-appearance is almost certain. All susceptible varieties (sultanas, &c.), should be preventively "swabbed," just before the buds burst, with acid iron sulphate solution. Bulletin describing treatment will be posted on application. Complete, as early as possible, the application of manures if not already done. Mark out land for new plantations. If ground is in good order and not too wet, proceed with plantation of young vines (unpruned). Remove cuttings or scions from vines previously marked, and keep fresh by burying horizontally in almost dry sand in cool, sheltered place. Permanently stake or trellis last year's plantations.

Cellars.—Rack all young wines, whether previously racked or not. Rack older wines also. For this work choose, as much as possible, fine weather and high barometer. Fill up regularly all unfortified wines. This is a good time for bottling wine.

LUCERNE *The King of Fodder Crops*

New Shipment Just Arrived

FRENCH PROVENCE LUCERNE

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Successive tests show Germination of 95% and over

The stalks are fine, leafy, and grow upright; makes first-class hay. Specially suited to the Werribee, Bacchus Marsh, and other Southern districts.

3/- per lb.; 2/9 per lb. in cwt. lots; 2/8 per lb. in 300 lb. lots or more.

HUNTER RIVER LUCERNE

(Guaranteed True. N.S.W. Grown).

Fresh Supplies to hand. New Season's Seed.

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Lucerne is the Ideal Fodder Crop. No Farmer should be without a Paddock. Sow Now.

All our Lucernes are specially re-machine cleaned and screened by the most up-to-date machinery at our bulk stores. (We have imported extra screens, specially adapted for cleaning Lucerne.) Free from Dodder, True to name, and have passed the Government test.

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DEPARTMENT OF AGRICULTURE, VICTORIA

Red Poll Dairy Herd

The Department will shortly have completed the orders for calves that were booked ahead of calving when the advertisement was withdrawn; consequently the booking of orders for bull calves from the forthcoming calvings has now been resumed.

BULL CALVES are sold for delivery at a month old at prices based approximately on the actual milk and butter fat record of the dam at the rate of 1s. per lb. of butter ***fat*** yielded.

(For Record of Yields of dams see Red Poll Herd Book.)

The Bulls in Use include—

LONGFORD MAJOR (Imported)

Dam's Record 14713 lbs. milk ... 6 years average 11338 lbs. milk
G. Dam's ,, 10548 ,, ... 4 ,, ,, 9135 ,,

BELLIGERENT (Imported)

Dam's Record (1st milking) 7144 lbs. milk.

Dam's Dam's	,,	14533 lbs. milk	...	4 years average	12871	lbs. milk
Sire's Dam's	,,	10370 ,,	...	7 ,, ,,	9354	,,
Sire's D. Dam's	,,	9510 ,,	...	12 ,, ,,	8033	,,
G. Sire's D. Dam's	,,	10215 ,,	...	7 ,, ,,	9386	,,
G.G. Sire's D. Dam's	,,	12565 ,,	...	10 ,, ,,	8853	,,
G.G.G. Sire's D. Dam's	,,	10088 ,,	...	2 ,, ,,	9754	,,

Inspection of the Herd is Invited.

Visitors will be met at the Station on notifying the Manager, State Research Farm, Werribee.

Application for purchase to

Dr. S. S. CAMERON, DIRECTOR OF AGRICULTURE, MELBOURNE.

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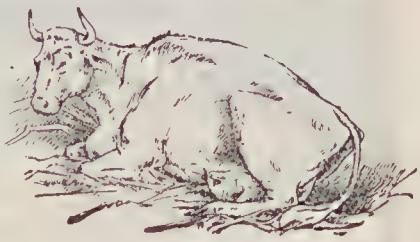
"The best cow drinks made,"

says an experienced Welsh owner.

A MAN who has had a lifetime of experience of cattle as owner and breeder can be accounted an expert. When that man has had an intimate knowledge of a specific for over 30 years, he can be accounted an authority.

Mr. Thomas Davies, of Anglesey, Wales, possesses the above qualifications. It is his remark that appears at the head of this page, "The best cow drinks made."

This authority says further, "I have cured nine out of ten cases of sickness in cattle with KARSWOOD COW DRINKS during the past 32 years. In nine cases out of ten it is purging that will cure them . . . All farmers about here say the same."



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Thomas Fidler, of Stockport, England, says:—"Find nothing to equal them, especially in urgent cases where quick purging is necessary."

A sick beast—whether for beef or milk—is a beast depreciated and endangered. Take care of your valuable stock. Keep always handy a supply of KARSWOOD COW DRINKS and be prepared for quick and sure treatment of cattle ailments.

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Inspector-General

DEPARTMENT OF AGRICULTURE, VICTORIA

Pure Ayrshire Bulls

for Sale

STATE FARM, RUTHERGLEN

Royal Prince of Gowrie Park

Colour, Brown and White. *Calved 30th July, 1915*

Bred by Mr. W. P. Brisbane, Gowrie Park, Weerite, Victoria.

Pedigree.

Sire: Wallace of Gowrie Park (675) A.H.B. of A.
Dam: Princess of Gowrie Park (1710) by Heather of Jock 2nd (387)
2nd Dam: Princess 4th of Luminous of Oakbank (456)
3rd Dam: Young Princess by Dahlia's Adonis (172)
4th Dam: Princess by Young Norman (225)
5th Dam: Fancy by Earl of Seafield (422).
6th Dam: Princess by Norval.

Princess of Gowrie Park yielded 8,930¼ lbs. milk with a 4·67 test in 273 days.

COLLEGE PRINCE

Colour, Brown and White. *Calved 24th September, 1917*

Bred by Department of Agriculture at the State Farm, Rutherglen.

Sire: Royal Prince of Gowrie Park by Wallace of Gowrie Park (675) A.H.B. of A.
Dam: Irene 2nd of Flinders by Glen Elgin's Combine.
2nd Dam: Irene of Flinders by Gleneira's Monsieur (546)
3rd Dam: Irene of Gleneira (1727) by Majestic of Oakbank (326)
4th Dam: Isabel of Gleneira (1036) by Red Chief (359)
5th Dam: Gaiety (1006) by Dainty Davie.
6th Dam: Princess (270) by Prince.

Irene 2nd of Flinders yielded 570 gallons of milk with a 4·2 test in 304 days.

Inspection of these Bulls at the State Farm, Rutherglen, is invited

Application for purchase to

Dr. S. S. CAMERON, Director of Agriculture, Melbourne

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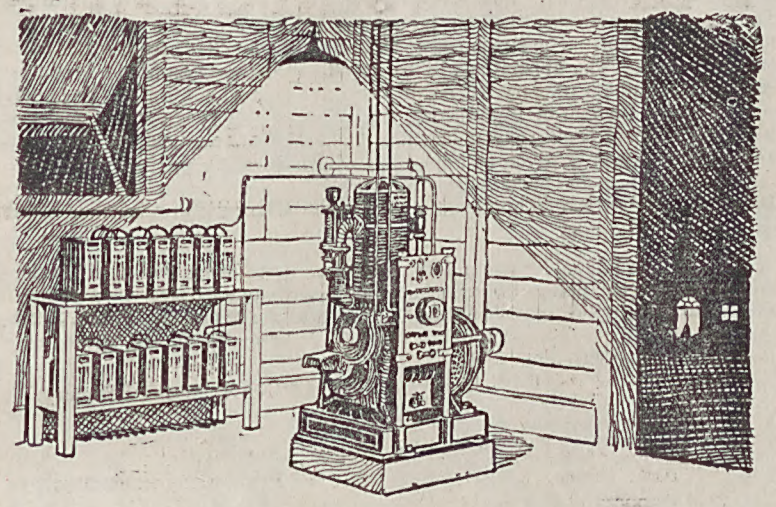

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Director, Queensland Producers' Association

APPLICATIONS are invited for the position of Director of the Queensland Producers' Association. Commencing salary £1,500 per annum; but if deemed necessary by the Council of Agriculture a higher commencing salary may be paid to any prospective appointee who may possess exceptional qualifications. The period of appointment will be three years, but the appointee will be eligible for re-appointment. The appointment will be terminable by three months' notice on either side. The appointee will be an officer of the Queensland Producers' Association, and his primary duty will be to administer, subject to the general control of the Council of Agriculture, the affairs of the Producers' Association. Applicants should possess expert business, financial, and organizing qualifications, and preference may be given to applicants who have had experience of co-operative undertakings and general directive work in connexion with the Agricultural Industry. The successful applicant will be required to furnish a medical certificate of physical fitness.

Applications should contain full particulars as to name, age, qualifications, and experience of applicants, and should be accompanied by certified copies of testimonials. Applications should be forwarded to the Secretary, Public Service Commissioner (for transmission to the Council of Agriculture), and should reach him on or before 30th June, 1922.

H. DIGNAN, Acting Secretary.

Public Service Commissioner's Department,
Queensland Government Insurance Building,
George and Elizabeth Streets,
Brisbane.

15th May, 1922.

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No. 1—Pure Cosh World's Record Strain, mated to a Cock bred from "Lady Ormond," who laid 301 eggs in 11 months at Burnley Competition - Price, £2/2/-

No. 2—From Single Tested Hens 240 to 272, mated to Cosh-Swift x Moritz Cock, whose mother laid 275 eggs in 12 months - - - Price, £2/2/-

No. 3—From Cosh-Swift x Moritz Hens, mated to Cockerels bred from Single Tested Hens with scores of 272 and 285 - - - Price, £1/1/-

Note.—W. N. O'Mullane's Champion Burnley Pen 1914-15, which established a still unbeaten World's Record for White Leghorns, was the progeny of a hen hatched from a setting from these yards.

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No. 1—From Single Tested Hens with scores of 256 to 284, mated to a Cock whose mother laid 313 eggs in 12 months - - - - Price, £2/2/-

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No. 1—From Single Tested Hens with scores of 245 to 272, mated to Cocks bred from a hen that laid 292 eggs in 12 months - - - Price, £2/2/-

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To allow for infertile eggs, sixteen eggs will be forwarded for each sitting. No guarantee of fertility or replacement will therefore be made.

A limited number of Cockerels and Cocks bred from birds specified above are available for sale. Price, £2/2/- & £1/1/- each. 1/- extra for crating

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